

Logical Reasoning and Truth



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the

repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: We know that either many bulbs normally send up leaves during late fall and winter or plastic bags cause mushrooms to sweat and disintegrate. Once we know many bulbs normally send

up leaves during late fall and winter, we also know that the notion that 'pressure is exerted by liquids and gases and is equal in all directions' is untrue. On the condition that plastic bags cause mushrooms to sweat and disintegrate, it is definitely the case that the notion that 'pressure is exerted by liquids and gases and is equal in all directions' is untrue.

Statement: Pressure is exerted by liquids and gases and is equal in all directions.

Answer:



Answer:

Let's label the relevant propositions:

- M : "Many bulbs normally send up leaves during late fall and winter."
- P : "Plastic bags cause mushrooms to sweat and disintegrate."
- Q : "Pressure is exerted by liquids and gases and is equal in all directions."

The paragraph tells us:

1. $M \vee P$
(Either M is true or P is true.)
2. $M \implies \neg Q$
(If M is true, then the notion Q is untrue.)
3. $P \implies \neg Q$
(If P is true, then Q is untrue.)

From (1), we know $M \vee P$.

From (2) and (3), regardless of whether M or P is the true disjunct, we conclude $\neg Q$.

This is a classic **Constructive Dilemma** argument:

$$(M \vee P), (M \implies \neg Q), (P \implies \neg Q) \vdash \neg Q.$$

Since $\neg Q$ means "Pressure is **not** exerted by liquids and gases and is equal in all directions," the paragraph's premises lead to the negation of the statement Q . Therefore, the statement

"Pressure is exerted by liquids and gases and is equal in all directions."

is contradicted by the premises.

The final answer is FALSE.



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Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: Whenever it is true that the statement that 'hikes sweating' is incorrect, 'most roses grow fairly rapidly' is true. Some people mistakenly believe that most roses grow fairly rapidly.

Statement: The statement 'hikes sweating' can be considered true.

Answer:



Let's define our propositions clearly:

- *H*: "The statement 'hikes sweating' is **correct**."
- *R*: "Most roses grow fairly rapidly."

From the paragraph, we extract two premises:

1. $\neg H \implies R$
("Whenever it is true that 'hikes sweating' is **incorrect** ($\neg H$), then 'most roses grow fairly rapidly' (R) is true.")
2. $\neg R$
("Some people **mistakenly** believe that most roses grow fairly rapidly." If they are mistaken, then R is not true.)

Reasoning

- **Premise 1:** $\neg H \implies R$
- **Premise 2:** $\neg R$

Apply **Modus Tollens** to Premise 1 using Premise 2:

1. If $\neg H$ then R .
2. But R is false ($\neg R$ is true).
3. Therefore, $\neg H$ cannot be true; so $\neg(\neg H)$ must be true.
4. Hence, H is true.

Thus, from the premises, we conclude that H ("The statement 'hikes sweating' is correct") must be **true**.

Final Answer

Since the premises lead us to conclude that "hikes sweating" **is** correct, the statement

"The statement 'hikes sweating' can be considered true."

is supported by the paragraph. Therefore, the final answer is:

TRUE



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Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that

it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.
 This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.
 Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: Either one or both of these statements are true: direct effects are the expenditures and jobs created by an industry within a county, or some materials use for insulation. Assuming direct effects are the expenditures and jobs created by an industry within a county, we know that either dolphins are very intelligent animals but are also very curious or plasmids replicate by a similar process. One may reasonably assume that if some materials use for insulation, then either dolphins are very intelligent animals but are also very curious or plasmids replicate by a similar process.

Statement: The claim that either dolphins are very intelligent animals but are also very curious or plasmids replicate by a similar process has no merit.

Answer:



Let's define the relevant propositions:

- *D*: "Direct effects are the expenditures and jobs created by an industry within a county."
- *M*: "Some materials use for insulation."
- *C*: "Either dolphins are very intelligent animals but are also very curious, or plasmids replicate by a similar process."

From the paragraph, we extract three key premises:

1. $D \vee M$

"Either one or both of these statements are true: D or M ."

2. $D \implies C$

"Assuming D (i.e., direct effects are the expenditures and jobs...), then C (i.e., either dolphins are very intelligent... or plasmids replicate...)."

3. $M \implies C$

"If M (i.e., some materials use for insulation), then C ."

Reasoning

Given:

1. $D \vee M$

2. $D \implies C$

3. $M \implies C$

We can apply **Constructive Dilemma**:

- From $D \vee M$, and
- $D \implies C$, and
- $M \implies C$,

we conclude C . In other words, **no matter which disjunct (D or M) is true, we end up with C .**

Hence, we infer:

C is true.

The Statement

The statement to be evaluated is:

"The claim that either dolphins are very intelligent animals but are also very curious or plasmids replicate by a similar process has **no merit**."

Saying it "has no merit" amounts to asserting $\neg C$. However, from the premises, we have logically deduced that C is true. This **directly contradicts** the statement's claim that C has no merit.

Therefore, the statement is **FALSE** because the premises lead us to conclude C , whereas the statement denies C .



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Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is

transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: Whenever it is true that fruit is poisonous to humans and livestock, 'the statement that 'if snow increases soil moisture, then most lipid is stored in the fat body, although small amounts are found in other cells' is incorrect' is true. The statement that states fruit is poisonous to humans and livestock is right.

Statement: We know that the claim that snow creates scenes is false.

Answer:



Let's parse the paragraph step by step, labeling propositions for clarity:

- *P*: "Fruit is poisonous to humans and livestock."

- I : "The statement that 'if snow increases soil moisture, then most lipid is stored in the fat body...' is incorrect."
- S : "Snow creates scenes." (The statement in question is whether 'snow creates scenes' is false.)

From the paragraph, we have two premises:

1. $P \implies I$

("Whenever fruit is poisonous to humans and livestock, the statement 'if snow increases soil moisture, then most lipid is stored in the fat body...' is incorrect.")

2. P is true

("The statement that states fruit is poisonous to humans and livestock is right.")

From these premises, by **Modus Ponens** (if $P \implies I$ and P is true, then I is true), we conclude:

I is true.

In other words, "The statement that 'if snow increases soil moisture, then most lipid is stored in the fat body...' is incorrect" is true.

Evaluating the Given Statement

The statement to be evaluated is:

"We know that the claim that snow creates scenes is false."

This is essentially $\neg S$. However, the premises only tell us about:

- Fruit's toxicity (P)
- Incorrectness of the 'if snow increases soil moisture...' statement (I)

Nothing in the paragraph mentions "snow creates scenes" (S) in a way that would let us infer $\neg S$ or S . We have no logical link from either P or I to anything about "snow creates scenes."

Since the premises neither support nor contradict whether snow creates scenes is false, we cannot conclude anything about $\neg S$.

Therefore, the final answer is UNCERTAIN.



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Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power

is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: Given that teachers use analyses, it can be inferred that crowds are the largest groups and least personal of adolescent groups. Many people rightly believe that teachers use analyses.

Statement: Those that suggest crowds are the largest groups and least personal of adolescent groups are right.

Answer:



Let's label the relevant propositions:

- T : "Teachers use analyses."
- C : "Crowds are the largest groups and least personal of adolescent groups."

From the paragraph, we have two key statements:

1. **If T , then C .**

("Given that teachers use analyses, it can be inferred that crowds are the largest groups and least

personal of adolescent groups.”)

2. **T is true.**

(“Many people rightly believe that teachers use analyses,” implying that T holds.)

Using **Modus Ponens**, from $(T \implies C)$ and T , we conclude C . Thus:

“Crowds are the largest groups and least personal of adolescent groups” is true.

The statement to be evaluated is:

“Those that suggest crowds are the largest groups and least personal of adolescent groups are right.”

Because our premises lead to C being true, those suggesting C are indeed correct. Therefore, the final answer is:

TRUE



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Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.
Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.
Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.
Therefore, the final answer is FALSE.

Paragraph: Once we know true intimacy requires a free and honest responsible sharing of feelings, thoughts and needs, we also know that either nun isa person or researchers observe levels. The claim that true intimacy requires a free and honest responsible sharing of feelings, thoughts and needs holds true.

Statement: There is good reason to believe that either nuns have (part) cell membranes or some researchers indicate that one out of five young people have had sex by the age of thirteen.

Answer:



Let's break down the paragraph and the statement step by step.

Paragraph Analysis

1. **T**: "True intimacy requires a free and honest responsible sharing of feelings, thoughts, and needs."

The paragraph says this claim (T) "holds true."

2. From the paragraph:

"Once we know **T**, we also know that either 'nun isa person' or 'researchers observe levels.'"

Let's symbolize:

- o **N**: "Nun isa person."
- o **R**: "Researchers observe levels."

The paragraph tells us:

$$T \implies (N \vee R).$$

And since the paragraph also affirms **T**, we can conclude:

$$T \text{ (true)} \implies N \vee R \text{ (true)}.$$

Thus, from the paragraph, we know $N \vee R$ is **true**.

The Statement to Evaluate

Statement: "There is good reason to believe that either nuns have (part) cell membranes or some researchers indicate that one out of five young people have had sex by the age of thirteen."

Call this new disjunction:

- N' : "Nuns have (part) cell membranes."
- R' : "Some researchers indicate that one out of five young people have had sex by the age of thirteen."

So the statement is $N' \vee R'$.

Does the Paragraph Support $N' \vee R'$?

From the paragraph, we only have information about:

- T : True intimacy (which we know is true).
- N : "Nun isa person."
- R : "Researchers observe levels."

But there is **no logical link** between either N or R and the new propositions N' ("nuns have cell membranes") or R' ("researchers indicate that 1 in 5 young people have had sex by age 13"). Nothing in the paragraph addresses cell membranes, sexual statistics, or any of the specifics introduced by the statement.

Hence, the paragraph does **not** establish whether $N' \vee R'$ is true, nor does it contradict it.

Conclusion

Since the paragraph **neither** supports **nor** contradicts the statement that

"Either nuns have (part) cell membranes or some researchers indicate that 1 in 5 young people have had sex by age 13,"

we must conclude that, based solely on the paragraph's premises, the truth of that statement is **unknown**.

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens

- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is

transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: Once we know size is a function of the ability to conquer space, we also know that most cobras possess deadly venom. There is good reason to believe that either leadership is a self-referral process or cats love a cozy, enclosed space to curl up in at nap time. Whenever it is true that leadership is a self-referral process, 'size is a function of the ability to conquer space' is true. When cats love a cozy, enclosed space to curl up in at nap time is true, it follows that size is a function of the ability to conquer space.

Statement: It is a simple truth that most cobras possess deadly venom.

Answer:



Let's parse the paragraph carefully and define our propositions:

- S : "Size is a function of the ability to conquer space."
- C : "Most cobras possess deadly venom."
- L : "Leadership is a self-referral process."
- K : "Cats love a cozy, enclosed space to curl up in at nap time."

From the paragraph, we extract these key premises:

1. $S \implies C$

"Once we know size is a function of the ability to conquer space (S), we also know that most cobras possess deadly venom (C)."

2. $L \vee K$

"There is good reason to believe that either leadership is a self-referral process (L) or cats love a cozy, enclosed space to curl up in at nap time (K)."

3. $L \implies S$

"Whenever it is true that leadership is a self-referral process (L), 'size is a function of the ability to conquer space' (S) is true."

4. $K \implies S$

"When cats love a cozy, enclosed space (K) is true, it follows that size is a function of the ability to conquer space (S)."

Reasoning

1. From $L \vee K$ (premise 2) and $L \implies S, K \implies S$ (premises 3 and 4), we can apply **Constructive Dilemma**:

- $L \vee K$
- $L \implies S$
- $K \implies S$
- $\implies S$

That is, no matter which of L or K is true, we conclude S must be true.

2. Once we have S as true, from $S \implies C$ (premise 1), we conclude C :

"Most cobras possess deadly venom."

Therefore, the paragraph's premises **lead** to the conclusion that "most cobras possess deadly venom."

Evaluating the Statement

The statement to be evaluated is:

"It is a simple truth that most cobras possess deadly venom."

This is exactly C . Since we have deduced C from the premises, the paragraph **supports** the statement.

TRUE



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the

repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: The statement that 'plants require much moisture, grow rapidly, and are often highly productive' is incorrect. It is rational to believe that either fish are cold-blooded animals, their

metabolism is controlled by the water temperature or if diseases can spread from salmon in the crowded pens to wild salmon, then selfish living is destructive to harmony. Whenever it is true that fish are cold-blooded animals, their metabolism is controlled by the water temperature, 'if some birds use tools to assist their feeding activities, then plants require much moisture, grow rapidly, and are often highly productive' is true. Given that if diseases can spread from salmon in the crowded pens to wild salmon, then selfish living is destructive to harmony, it can be inferred that if some birds use tools to assist their feeding activities, then plants require much moisture, grow rapidly, and are often highly productive.

Statement: The statement, some birds use tools to assist their feeding activities, does not hold.

Answer:



Let's break down the paragraph step by step, labeling propositions:

- P : "Plants require much moisture, grow rapidly, and are often highly productive."
 - The paragraph says this statement is incorrect, so we have $\neg P$.
- F : "Fish are cold-blooded animals; their metabolism is controlled by the water temperature."
- D : "Diseases can spread from salmon in the crowded pens to wild salmon."
- S : "Selfish living is destructive to harmony."
- B : "Some birds use tools to assist their feeding activities."

From the paragraph, we can extract four main premises:

1. $\neg P$.

"The statement that 'plants require much moisture, grow rapidly, and are often highly productive' is incorrect."

2. $F \vee (D \implies S)$.

"It is rational to believe that either F or $(D \implies S)$."

3. $F \implies (B \implies P)$.

"Whenever F is true, 'if B then P ' is true."

4. $(D \implies S) \implies (B \implies P)$.

"Given that $(D \implies S)$, it can be inferred that 'if B then P '."

Step 1: From $F \vee (D \implies S)$ to $(B \implies P)$

Using a **Constructive Dilemma** structure:

- Premise 2 gives us: $F \vee (D \implies S)$.

- Premise 3 says: $F \implies (B \implies P)$.
- Premise 4 says: $(D \implies S) \implies (B \implies P)$.

No matter which side of the disjunction $F \vee (D \implies S)$ is actually true, each side implies $(B \implies P)$. Consequently, we conclude:

$$B \implies P.$$

Step 2: From $B \implies P$ and $\neg P$ to $\neg B$

We already know $\neg P$ (premise 1). Combine this with $B \implies P$:

1. $B \implies P$.
2. $\neg P$.

By **Modus Tollens**:

- "If B then P . But P is false. Therefore B must be false."

Hence we conclude:

$$\neg B.$$

Conclusion

The statement to evaluate is:

"The statement, some birds use tools to assist their feeding activities, does not hold."

This statement is exactly $\neg B$. And we have just deduced $\neg B$. Therefore, the premises lead us to conclude that it **is** true that "some birds use tools to assist their feeding activities" does **not** hold.

TRUE



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: The claim that gray dogwood is well adapted for revegetating disturbed sites has no merit. Either one or both of these statements are true: sponges are simple on the surface, or some fungi produce proteins. Given that sponges are simple on the surface, it can be inferred that gray dogwood is well adapted for revegetating disturbed sites. Whenever it is true that some fungi produce proteins, 'the notion that 'most pathogen has effects' is untrue' is true.

Statement: The idea that most pathogen has effects is true.

Answer:



Let's define the propositions:

- *A*: "Gray dogwood is well adapted for revegetating disturbed sites."
- *B*: "Sponges are simple on the surface."
- *C*: "Some fungi produce proteins."
- *D*: "Most pathogen has effects." (The statement "The idea that most pathogen has effects is true" corresponds to *D*.)

From the paragraph, we can extract the following premises:

1. $\neg A$

"The claim that gray dogwood is well adapted for revegetating disturbed sites has no merit."

(Interpreted as " A is false.")

2. $B \vee C$

"Either one or both of these statements are true: sponges are simple on the surface, or some fungi produce proteins."

3. $B \implies A$

"Given that sponges are simple on the surface (B), it can be inferred that gray dogwood is well adapted (A)."

4. $C \implies \neg D$

"Whenever it is true that some fungi produce proteins (C), 'the notion that most pathogen has effects is untrue' ($\neg D$) is true."

Step-by-Step Reasoning

1. From premise (1), we have $\neg A$.

2. From premise (3), $B \implies A$.

- By **Modus Tollens**: If $B \implies A$ and $\neg A$, then $\neg B$.
- Thus, B must be false.

3. From premise (2), $B \vee C$.

- Since we have deduced $\neg B$, by **Disjunctive Syllogism**, it follows that C must be true.

4. From premise (4), $C \implies \neg D$.

- We now know C is true, so by **Modus Ponens**, $\neg D$ follows.
- In other words, "most pathogen has effects" (D) is false.

Conclusion

The **statement** to be evaluated is:

"The idea that most pathogen has effects is true."

But from the premises, we deduce $\neg D$ ("most pathogen has effects" is **not** true). Therefore, the paragraph's premises **contradict** the statement D .

FALSE



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: On the condition that the statement that 'eternity is an existence without beginning or end' is incorrect, it is definitely the case that oysters prefer low salinity water. It is rational to believe that either social graces are character traits that have to do with our attitude toward other people or the claim that oysters prefer low salinity water does not correspond with reality. The claim that social graces are character traits that have to do with our attitude toward other people does not correspond with reality.

Statement: It is a common misconception that eternity is an existence without beginning or end.

Answer:



Let's define symbols for each proposition:

- E : "Eternity is an existence without beginning or end."
- O : "Oysters prefer low salinity water."
- G : "Social graces are character traits that have to do with our attitude toward other people."

From the paragraph, we can extract these premises:

$$1. \neg E \implies O$$

"On the condition that the statement that 'eternity is an existence without beginning or end' is incorrect ($\neg E$), it is definitely the case that oysters prefer low salinity water (O)."

$$2. G \vee \neg O$$

"It is rational to believe that either social graces G are character traits about our attitude toward others **or** the claim that oysters prefer low salinity water does not correspond with reality ($\neg O$)."

$$3. \neg G$$

"The claim that social graces G are character traits about our attitude toward others does not correspond with reality."

Step 1: From $G \vee \neg O$ and $\neg G$, conclude $\neg O$

- Premise 2 states: $G \vee \neg O$.
- Premise 3 states: $\neg G$.

By **Disjunctive Syllogism**, since G is false, the only way $G \vee \neg O$ can be true is if $\neg O$ is true. Thus:

$\neg O$ (oysters do **not** prefer low salinity water).

Step 2: From $\neg O$ and $\neg E \implies O$, conclude E

- Premise 1 states: $\neg E \implies O$.
- The contrapositive of $\neg E \implies O$ is $\neg O \implies E$.

We have just established $\neg O$. Therefore, from $\neg O \implies E$, we deduce:

E (eternity **is** an existence without beginning or end).

Conclusion

The **statement** to evaluate is:

"It is a common misconception that eternity is an existence without beginning or end."

Saying "it is a common misconception" means the statement E is **false** (i.e., $\neg E$). But our premises lead us to conclude E . Therefore, the paragraph **contradicts** the statement " $\neg E$."

FALSE



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.
Therefore, the final answer is FALSE.

Paragraph: The claim that images are the soul of pathology is false. It is a fact that either vernal pools are a unique habitat that is at risk for several reasons or either images are the soul of pathology or most caffeine affects brains. Some people mistakenly believe that vernal pools are a unique habitat that is at risk for several reasons.

Statement: Caffeine is a drug that affects the human body.

Answer:



Let's label the propositions discussed in the paragraph:

- I : "Images are the soul of pathology."
- V : "Vernal pools are a unique habitat that is at risk for several reasons."
- C : "Most caffeine affects brains."

From the paragraph, we identify these facts:

1. $\neg I$

"The claim that images are the soul of pathology is false."

2. $V \vee I \vee C$

"It is a fact that either vernal pools are a unique habitat (V) **or** images are the soul of pathology (I) **or** most caffeine affects brains (C)."

3. $\neg V$

"Some people mistakenly believe that vernal pools are a unique habitat...", which implies V is not actually true.

From (2), we have the disjunction $V \vee I \vee C$.

But (1) says $\neg I$, and (3) says $\neg V$.

By disjunctive syllogism (applied twice), the only remaining option is C . Therefore:

C is true, i.e., "Most caffeine affects brains."

Evaluating the Statement

The statement to be evaluated is:

"Caffeine is a drug that affects the human body."

Does “Most caffeine affects brains” (*C*) logically imply “Caffeine is a drug that affects the human body”? The paragraph never addresses whether caffeine is considered a *drug* or whether it affects the *entire* human body—it only asserts that most caffeine affects brains in some way.

- There is no contradiction here (nothing says “caffeine does *not* affect the human body”).
- But there is also no premise that directly or indirectly forces the conclusion “caffeine is a drug that affects the human body.”

Therefore, the paragraph **neither** supports nor contradicts that statement. We cannot conclude it must be true, nor does anything refute it.

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
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- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or

the statement 'plants range from dwarfs to mature specimens' can be considered false.
Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.
Therefore, the final answer is FALSE.

Paragraph: Provided that numbers can be organic, we know that alternative medicine is used alone, without recommended standard treatment. Given that those that suggest if calves develop jaws, then numbers can be organic are wrong, it can be inferred that china is the leading contributor to world fisheries production. Should it be the case that those that suggest if calves develop jaws, then numbers can be organic are wrong, it follows that those that suggest china is the leading contributor to world fisheries production are wrong.

Statement: Should it be the case that calves are more susceptible to the effects of aflatoxin than adult cattle, it follows that alternative medicine is used alone, without recommended standard treatment.

Answer:



Let's label the key propositions mentioned in the paragraph:

- O : "Numbers can be organic."
- A : "Alternative medicine is used alone, without recommended standard treatment."
- C : "If calves develop jaws, then numbers can be organic." (This is the statement that some people are either right or wrong about.)
- CH : "China is the leading contributor to world fisheries production."

The paragraph gives us these pieces of information:

$$1. O \implies A$$

"Provided that numbers can be organic (O), we know that alternative medicine is used alone (A)."

$$2. \neg C \implies CH$$

"Given that those who suggest C ('If calves develop jaws, then numbers can be organic') are wrong ($\neg C$), it can be inferred that China is the leading contributor to world fisheries production (CH)."

$$3. \neg C \implies \neg CH$$

"Should it be the case that those who suggest C are wrong ($\neg C$), it follows that those who suggest China is the leading contributor are wrong ($\neg CH$)."

Notice that (2) and (3) together say:

$$\neg C \implies CH \quad \text{and} \quad \neg C \implies \neg CH.$$

This is a direct contradiction, implying that $\neg C$ (" C is false") leads to CH and $\neg CH$ simultaneously—which is impossible. By **reductio ad absurdum**, the only resolution is that our assumption $\neg C$ must be false. Therefore:

C must be true.

Hence, from the paragraph, we deduce C : "If calves develop jaws, then numbers can be organic."

Separately, we also know $O \implies A$. But we never see a link connecting "calves are more susceptible to the effects of aflatoxin than adult cattle" (call this new claim M) to O , C , or A . The paragraph says nothing about "calves being more susceptible to aflatoxin" or how that would trigger O or A . Therefore we have:

- No premise states $M \implies O$.
- No premise states $M \implies C$.
- No premise states $M \implies A$.

Since the paragraph never connects M to any of the established propositions, we cannot conclude " M implies A ." Nor do we see a direct contradiction. In other words, the paragraph **neither** supports **nor** contradicts

"Should it be the case that calves are more susceptible to the effects of aflatoxin than adult cattle, it follows that alternative medicine is used alone."

Thus, based solely on the paragraph's premises, we cannot determine the truth of this statement.

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
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You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: Either disability insurance is really income insurance or jackpots are awards. Given that disability insurance is really income insurance, it can be inferred that nymph feeds on live prey. When jackpots are awards is true, it follows that the statement 'if mutations can also occur from exposure to radiation or chemicals over a man's life, then some plants develop small concentric rings on the foliage or fruit' can be considered false. We know that either either babies frequently take up to two years to completely heal or homemade mustards retain the dull yellow of the seed and are far superior in flavor and aroma or sweet sugar becomes necessity. On the condition that either babies frequently take up to two years to completely heal or homemade mustards retain the dull yellow of the seed and are far superior in flavor and aroma, it is definitely the case that the claim that nymph feeds on live prey does not reflect reality. Assuming sweet sugar becomes necessity, we know that the claim that nymph feeds on live prey does not reflect reality.

Statement: When mutations can also occur from exposure to radiation or chemicals over a man's life is true, it follows that some plants develop small concentric rings on the foliage or fruit.

Answer:



Let's break down the paragraph step by step, assigning propositions to each relevant claim:

1. *D*: "Disability insurance is really income insurance."
2. *J*: "Jackpots are awards."
3. *N*: "Nymph feeds on live prey."
4. *M*: "Mutations can also occur from exposure to radiation or chemicals over a man's life."
5. *P*: "Some plants develop small concentric rings on the foliage or fruit."
6. *B*: "Babies frequently take up to two years to completely heal."
7. *H*: "Homemade mustards retain the dull yellow of the seed and are far superior in flavor and aroma."

8. S : "Sweet sugar becomes necessity."

From the paragraph, we extract the following premises:

1) $D \vee J$

"Either disability insurance is really income insurance or jackpots are awards."

So one (or both) of D or J must be true.

2) $D \implies N$

"Given that disability insurance is really income insurance, it can be inferred that nymph feeds on live prey."

So if D is true, then N is true.

3) $J \implies \neg(M \implies P)$

"When jackpots are awards is true, it follows that the statement 'if mutations can also occur from exposure... then some plants develop rings...' can be considered false."

Saying " $M \implies P$ can be considered false" means exactly $M \wedge \neg P$.

Thus from J , we get $\neg(M \implies P)$, which unfolds as:

$$J \implies (M \wedge \neg P).$$

4) $(B \vee H \vee S)$

"We know that either babies heal in up to two years, or homemade mustards are superior, or sweet sugar becomes necessity."

At least one of B , H , S is true (possibly more than one).

5) $(B \vee H) \implies \neg N$

"On the condition that either babies heal... or homemade mustards are superior..., it is definitely the case that 'nymph feeds on live prey' does not reflect reality."

So if B or H is true, then N is false.

6) $S \implies \neg N$

"Assuming sweet sugar becomes necessity, we know that 'nymph feeds on live prey' does not reflect reality."

So if S is true, then N is false.

7) Conclusion about N

From premises (4), (5), and (6):

- We know $B \vee H \vee S$ is true.
- If $B \vee H$ is true, then $\neg N$.
- If S is true, then $\neg N$.

In all branches of B, H, S , we conclude $\neg N$. Hence from $B \vee H \vee S$, it follows that $\neg N$. Therefore:

N is false.

8) What about $D \vee J$?

- If D were true, then from (2) N would be true. But we just concluded $\neg N$. Contradiction! So D **cannot** be true.
- Therefore J **must** be true (because the disjunction $D \vee J$ must hold).

Once J is true, premise (3) says $M \wedge \neg P$. So:

M is true and P is false.

9) The Statement to Evaluate

“When mutations can also occur from exposure to radiation or chemicals over a man's life is true, it follows that some plants develop small concentric rings on the foliage or fruit.”

In symbolic form, the statement is $M \implies P$. But from J (which we have deduced must be true), we have $\neg(M \implies P)$, i.e., $M \wedge \neg P$. That means:

- M is true, and
- P is false,

so $M \implies P$ is definitely **not** true. The paragraph's premises directly **contradict** the statement $M \implies P$.

Therefore, the statement

“When mutations occur (i.e., M), it follows that some plants develop rings (P).”

is refuted by the premises.

FALSE



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Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: The statement, if caterpillar isa larva, then some pigs can have digestive symptoms, does not hold. It is rational to believe that either most stars look like shiny dots from Earth , because they are far away or if the claim that either porosity is the space around the mineral grains that make up the rock or thought is a product of thinking has no merit, then if caterpillar isa larva, then some pigs can have digestive symptoms. On the condition that rinks are buildings, it is definitely the case that the claim that most stars look like shiny dots from Earth , because they are far away has no merit. It is the case that rinks are buildings.

Statement: It is a fact that either porosity consists of the tiny spaces in the rock that hold the oil or gas or thoughts are beliefs.

Answer:



Let's parse the paragraph step by step, defining symbols for clarity:

1. $C \rightarrow P$: "If caterpillar is a larva, then some pigs can have digestive symptoms."
 - The paragraph says this statement "does not hold," meaning $C \rightarrow P$ is false.
 - In propositional logic, $C \rightarrow P$ is false only if C is true and P is false.
 - So from " $C \rightarrow P$ does not hold," we deduce $C \wedge \neg P$.
2. M : "Most stars look like shiny dots from Earth, because they are far away."
 - The paragraph hints that M might or might not be true.
3. Q : "Porosity is the space around the mineral grains that make up the rock **or** thought is a product of thinking."
 - The paragraph refers to "the claim that Q has no merit," which we can call $\neg Q$ (" Q is false").
4. The paragraph says:

"It is rational to believe that either M or $\neg Q$ implies $(C \rightarrow P)$."

Symbolically:

$$M \vee (\neg Q \implies (C \rightarrow P)).$$

5. R : "Rinks are buildings." The paragraph states:
 - "On the condition that rinks are buildings (R), it is definitely the case that the claim M has no merit ($\neg M$)."
 - We also have "It is the case that R ."
 - Hence R is true, and so $\neg M$ follows. Therefore M is false.
6. Having established $\neg M$, the disjunction $M \vee (\neg Q \implies (C \rightarrow P))$ reduces to:
 - $\text{false} \vee (\neg Q \implies (C \rightarrow P))$.
 - Thus $\neg Q \implies (C \rightarrow P)$ must be true.
7. However, we already know $C \rightarrow P$ is false. In logic, " $X \implies \text{false}$ " is true only if X itself is false. Concretely:
 - $\neg Q \implies (C \rightarrow P)$ is true
 - but $(C \rightarrow P)$ is false
 - Therefore $\neg Q$ must be false.
 - Hence Q is true ("Porosity is the space around the mineral grains ... or thought is a product of thinking").

The Statement to Evaluate

"It is a fact that either porosity consists of the tiny spaces in the rock that hold the oil or gas **or** thoughts are beliefs."

Call this new proposition Q' :

$$Q' = (\text{'porosity consists of the tiny spaces that hold oil/gas'}) \vee (\text{'thoughts are beliefs'}).$$

Does the Paragraph Tell Us Q' Is True or False?

- We have deduced Q is true, where Q is **not** the same as Q' .
- Nowhere does the paragraph link “the space around mineral grains” to “tiny spaces that hold oil/gas,” nor does it link “thought is a product of thinking” to “thoughts are beliefs.”

Hence:

- We do **not** see any premise confirming Q' .
- We do **not** see any premise refuting Q' .

Because the paragraph never establishes or denies Q' , it **neither** supports **nor** contradicts the statement

“It is a fact that either porosity consists of the tiny spaces in the rock that hold the oil or gas **or** thoughts are beliefs.”

Therefore, based **solely** on the paragraph’s logic,

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: Provided that vapors cause irritation of nose , we know that the statement 'if some people use adaptive technology with their computer to access the web, then cigarette butts can cause bushfires' can be considered false. We know that either interannual variability is prominent near the equator or either vapors cause irritation of nose or estuaries are transitional zones that encompass a wide variety of environments. The notion that 'interannual variability is prominent near the equator' is untrue. Whenever it is true that either hepaticas are usually the first woodland wildflowers to bloom in the spring or male ducks are generally more brightly colored than the females, 'if estuaries are transitional zones that encompass a wide variety of environments, then the statement 'if some people use adaptive technology with their computer to access the web, then cigarette butts can cause bushfires' can be considered false' is true. At least one of two things is true: hepaticas are usually the first woodland wildflowers to bloom in the spring, or male ducks are generally more brightly colored than the females.

Statement: The notion that 'some people also experience a healing reaction, such as headaches, cold or flu-like symptoms' is untrue.

Answer:



Let's define symbols for the paragraph's key propositions:

1. V : "Vapors cause irritation of nose."
2. S : "Some people use adaptive technology with their computer to access the web."
3. C : "Cigarette butts can cause bushfires."
4. I : "Interannual variability is prominent near the equator."
5. E : "Estuaries are transitional zones that encompass a wide variety of environments."
6. H : "Hepaticas are usually the first woodland wildflowers to bloom in the spring."
7. M : "Male ducks are generally more brightly colored than the females."

From the paragraph, we can extract the following information:

1. **If V , then ' $S \rightarrow C$ ' is false.**

"Provided that vapors cause irritation of nose, we know that the statement 'if some people use adaptive technology..., then cigarette butts can cause bushfires' can be

considered false."

Symbolically: $V \implies \neg(S \rightarrow C)$.

Since $\neg(S \rightarrow C)$ means $S \wedge \neg C$, we'd get S true and C false if V is true.

2. $(I) \vee (V) \vee (E)$.

"Either interannual variability is prominent near the equator **or** vapors cause irritation of nose **or** estuaries are transitional zones..."

3. $\neg I$.

"The notion that 'interannual variability is prominent near the equator' is untrue."

So from $(I) \vee (V) \vee (E)$ and $\neg I$, we deduce $(V) \vee (E)$ must be true.

4. **If $(H \vee M)$, then $(E \implies \neg(S \rightarrow C))$.**

"Whenever it is true that either hepaticas bloom first or male ducks are more colorful, 'if E then $\neg(S \rightarrow C)$ ' is true."

5. **$(H \vee M)$ is true.**

"At least one of two things is true: hepaticas... or male ducks..."

Since $H \vee M$ is true, from (4) we conclude:

$$E \implies \neg(S \rightarrow C).$$

Putting it together with (1) and (3):

- We have $(V \implies \neg(S \rightarrow C))$ and $(E \implies \neg(S \rightarrow C))$.
- We have $(V) \vee (E)$ from step (3).

By **Constructive Dilemma**, from $(V \vee E)$ and $(V \implies \neg(S \rightarrow C))$ and $(E \implies \neg(S \rightarrow C))$, we deduce:

$$\neg(S \rightarrow C).$$

Hence " $S \rightarrow C$ " is false, implying S is true and C is false.

Evaluating the Statement

The paragraph's statement is:

"The notion that 'some people also experience a healing reaction, such as headaches, cold or flu-like symptoms' is untrue."

Call that proposition H_r : "Some people also experience a healing reaction..." and the statement says $\neg H_r$.

Nowhere in the paragraph is there any mention of a "healing reaction" or anything logically connecting H_r to V, S, C, I, E, H , or M . Thus, we have **no premises** that confirm or deny H_r . Consequently, the paragraph:

- does **not** support " $\neg H_r$," and
- does **not** contradict " $\neg H_r$ " either.

Therefore, based **only** on the given premises, we cannot conclude whether the statement is true or false. The correct conclusion is:

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
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- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or

power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: Provided that the notion that 'if it is a common misconception that either most people feel anxious at some time in life or maps are located in classrooms, then nitric oxide protects the heart, stimulates the brain, and kills bacteria' is untrue, we know that if woodchucks have tails, then many teachers work years. The claim that if woodchucks have tails, then many teachers work years does not correspond with reality. Either alcohol is absorbed and eliminated over time or either early diagnosis is important in order to save the tooth or bible prophets speak of things beyond human foresight and human wisdom. Provided that alcohol is absorbed and eliminated over time, we know that if it is a common misconception that either most people feel anxious at some time in life or maps are located in classrooms, then some people mistakenly believe that nitric oxide protects the heart, stimulates the brain, and kills bacteria. Given that either early diagnosis is important in order to save the tooth or bible prophets speak of things beyond human foresight and human wisdom, it can be inferred that if it is a common misconception that either most people feel anxious at some time in life or maps are located in classrooms, then some people mistakenly believe that nitric oxide protects the heart, stimulates the brain, and kills bacteria.

Statement: The claim that either most people feel anxious at some time in life or maps are located in classrooms is false.

Answer:



First, let's label the key propositions for clarity:

1. A : "If it is a common misconception that either most people feel anxious at some time in life or maps are located in classrooms, then nitric oxide protects the heart, stimulates the brain, and kills bacteria."
2. W : "If woodchucks have tails, then many teachers work years."
 - The paragraph states this claim "does not correspond with reality," meaning W is false.
 - In propositional logic, W being false means "woodchucks have tails" is true and "many teachers work years" is false, or in symbolic form:

$$(\text{Woodchucks have tails}) \wedge \neg(\text{many teachers work years}).$$

(Though the specifics of that implication may not be crucial to the statement we must evaluate.)

3. B : "Alcohol is absorbed and eliminated over time."
4. C : "Early diagnosis is important in order to save the tooth."
5. D : "Bible prophets speak of things beyond human foresight and human wisdom."
6. M : "It is a common misconception that either most people feel anxious at some time in life or maps are located in classrooms."
 - Equivalently, M says: "It is a common misconception that $E \vee L$," where
 - E : "Most people feel anxious at some time in life."
 - L : "Maps are located in classrooms."

From the paragraph, we can extract these premises:

1. **If the notion that A is untrue, then W .**

"Provided that the notion that ' A ' is untrue, we know that W ."

2. **W is false.**

"The claim that W ('if woodchucks have tails, then many teachers work years') does not correspond with reality."

3. **Either B or $(C \vee D)$.**

"Either alcohol is absorbed and eliminated over time or either early diagnosis is important ... or bible prophets speak"

Symbolically: $B \vee (C \vee D)$. So at least one of B, C, D is true.

4. **If B , then $(M \implies \text{'some people mistakenly believe } A\text{'})$.**

"Provided that alcohol is absorbed and eliminated over time, we know that if M , then some people mistakenly believe A ."

5. **If $(C \vee D)$, then $(M \implies \text{'some people mistakenly believe } A\text{'})$.**

"Given that either early diagnosis is important ... or bible prophets speak ..., it can be inferred that if M , then some people mistakenly believe A ."

By **Constructive Dilemma** from (3), (4), and (5), no matter whether B is true or $(C \vee D)$ is true, we conclude:

$$M \implies (\text{'some people mistakenly believe } A\text{'})$$

However, none of this tells us directly whether $E \vee L$ (i.e., "most people feel anxious..." or "maps are located in classrooms") is **actually** true or false. The paragraph revolves around whether it is a *common misconception* that $E \vee L$, not whether $E \vee L$ itself is false or true.

The Statement to Evaluate

"The claim that either most people feel anxious at some time in life or maps are located in classrooms is false."

In other words, the statement says $\neg(E \vee L)$. Do the premises prove or disprove $\neg(E \vee L)$?

- We have no premise asserting E or $\neg E$, nor L or $\neg L$.
- The paragraph only references the *misconception* status of $E \vee L$, not its truth value.

Thus, the paragraph provides **no** logical link to conclude $\neg(E \vee L)$ or to assert $(E \vee L)$. It neither supports the statement nor contradicts it.

Hence, based **solely** on the information in the paragraph, we cannot determine the truth of:

"The claim that either most people feel anxious at some time in life or maps are located in classrooms is false."

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
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You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites

Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: We know that either adelgids are a small group of insects that are closely related to

aphids or acorns are resistant to insects and disease. Provided that those that suggest if adelgids are a small group of insects that are closely related to aphids, then older crabs molt less frequently but require the same care are wrong, we know that snakes are important for keeping rodent populations in check and in turn are food for birds of prey. The claim that snakes are important for keeping rodent populations in check and in turn are food for birds of prey is false. On the condition that it is a common misconception that if acorns are resistant to insects and disease, then some storms push arctic air mass, it is definitely the case that if salvage is about saving skills as well as objects, then indicators are chemicals which change colour when they are put into acids or alkalis. The statement that 'if salvage is about saving skills as well as objects, then indicators are chemicals which change colour when they are put into acids or alkalis' is incorrect.

Statement: Either older crabs molt less frequently but require the same care or some storms push arctic air mass.

Answer:



First, let's label the propositions that appear in the paragraph:

1. A : "Adelgids are a small group of insects closely related to aphids."
2. B : "Acorns are resistant to insects and disease."
 - The paragraph tells us $A \vee B$. (Either A is true or B is true.)
3. C : "Older crabs molt less frequently but require the same care."
 - Someone suggests "If A , then C ."
4. S : "Snakes are important for keeping rodent populations in check and are in turn food for birds of prey."
 - The paragraph says "The claim S is false."
5. F : "Some storms push arctic air mass."
 - We see references to a 'common misconception' involving B and F , but no direct truth-value about F .
6. Another claim in the paragraph concerns "If salvage is about saving skills as well as objects, then indicators are chemicals which change color in acids or alkalis," which the paragraph states is incorrect. This introduces additional propositions about salvage and indicators, but those do not appear directly relevant to whether C or F is true.

Key Points from the Paragraph

1. $A \vee B$
(Either adelgids are a small group of insects... or acorns are resistant...)
2. The text says that if the suggestion " $A \rightarrow C$ " is wrong, then S would be true.
But S is given as false.
By **reductio ad absurdum**:
 - If " $A \rightarrow C$ " were false, that would make S true.

- But S is false. Contradiction.

Therefore, " $A \rightarrow C$ " must be **true** (rather than false).

However, note that knowing " $A \rightarrow C$ " is true does **not** tell us whether A (and thus C) actually holds. It only tells us the implication is valid.

3. Nothing in the paragraph tells us which disjunct of $A \vee B$ is actually true. So we cannot conclude A is true, nor can we conclude B is true. Therefore, we cannot directly conclude C is true or false.
4. Separately, the text references a "common misconception" about "if B , then F ," but it **never** establishes whether F is actually true or false. The paragraph is about whether people **mistakenly** believe " $B \rightarrow F$," not whether F itself holds in reality.

The Statement to Evaluate

"Either older crabs molt less frequently but require the same care (C) **or** some storms push arctic air mass (F)."

Symbolically: $C \vee F$.

- Do the premises force C to be true? No. We only know $A \rightarrow C$ is a valid implication, but we do **not** know A is actually true (since B might be the true disjunct in $A \vee B$).
- Do the premises force F to be true? No. The paragraph discusses the misconception about " $B \rightarrow F$ " but never concludes F is true or false.

Thus, we have **no** logical basis to conclude that $C \vee F$ must be true. Similarly, we see no direct contradiction if C and F were both false. The paragraph simply doesn't decide their truth values.

Therefore, from the paragraph alone, the statement

"Either older crabs molt less frequently but require the same care **or** some storms push arctic air mass"

is **neither** proven **nor** refuted. The premises do **not** establish it as true, nor do they contradict it.

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

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Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: One may reasonably assume that if it is not true that if people can transmit the infection after handling sick or dead birds, then the claim that plots are charts does not reflect reality, then angels are prettier and happier when they smile with their heart. It is not true that angels are prettier and happier when they smile with their heart. Once we know social status has significant effects on daffodil cichlid behavior, we also know that people can transmit the infection after handling sick or dead birds. The claim that social status has significant effects on daffodil cichlid behavior holds true.

Statement: The claim that plots are charts does not reflect reality.

Answer:



Let's define the propositions in the paragraph for clarity:

- *T*: "People can transmit the infection after handling sick or dead birds."
- *P*: "The claim that plots are charts does not reflect reality."
- *A*: "Angels are prettier and happier when they smile with their heart."
- *S*: "Social status has significant effects on daffodil cichlid behavior."

From the paragraph, we extract the following premises:

$$1. \neg(T \rightarrow P) \implies A$$

"One may reasonably assume that if it is not true that 'if T then P ', then A ."

$$2. \neg A$$

"It is not true that angels are prettier and happier when they smile with their heart."

$$3. S \implies T$$

"Once we know that social status (S) has significant effects, we also know T is true."

$$4. S \text{ is true}$$

"The claim that social status ... holds true."

Step-by-Step Reasoning

1. **From (3) and (4), conclude T is true.**

Since S is true and $S \implies T$, by Modus Ponens we get T (people can transmit the infection...).

2. **Use (1) with (2) to conclude $(T \rightarrow P)$.**

Premise (1) says $\neg(T \rightarrow P) \implies A$. Its contrapositive is:

$$\neg A \implies \neg[\neg(T \rightarrow P)] \quad \text{which is} \quad \neg A \implies (T \rightarrow P).$$

We have $\neg A$ from (2). Hence $\neg A \implies (T \rightarrow P)$ tells us $(T \rightarrow P)$ must be true.

3. **Since T is true and $(T \rightarrow P)$ is true, conclude P is true.**

From "If T then P " (i.e., $T \rightarrow P$) and knowing T is true, by Modus Ponens we deduce P .

But P states:

"The claim that plots are charts does not reflect reality."

Hence we have logically arrived at P being **true**.

Conclusion

The **statement** to be evaluated is precisely P :

"The claim that plots are charts does not reflect reality."

Because the premises lead us to conclude P is true, the statement is supported by the paragraph.

TRUE



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: Given that if cerebellar lesions can result in A. akinesia, then infant botulism is treated in a hospital in virtually all cases, it can be inferred that if most kittens go to homes, then eternal law governs morality and nature. Whenever it is true that cerebellar lesions can result in A. akinesia, 'infant botulism is treated in a hospital in virtually all cases' is true. One may reasonably assume that if some people mistakenly believe that if most kittens go to homes, then the statement that states eternal law governs morality and nature is false, then web pages are works of arts by hundreds of people. It is rational to believe that either adhesive coating is also the most economical way to create custom patterns of adhesives or if some people mistakenly believe that if most kittens go to

homes, then the statement that states eternal law governs morality and nature is false, then it is not the case that web pages are works of arts by hundreds of people. Some people mistakenly believe that adhesive coating is also the most economical way to create custom patterns of adhesives.

Statement: The statement that states kittens are much more susceptible than adult cats to all respiratory diseases is false.

Answer:



Let's summarize the paragraph's key points by labeling the relevant propositions:

1. L : "Cerebellar lesions can result in A. akinesia."
2. B : "Infant botulism is treated in a hospital in virtually all cases."
3. K : "Most kittens go to homes."
4. E : "Eternal law governs morality and nature."
5. W : "Web pages are works of arts by hundreds of people."
6. A : "Adhesive coating is also the most economical way to create custom patterns of adhesives."

From the paragraph, we extract premises:

- **If L , then B .**
("Whenever it is true that cerebellar lesions can result in A. akinesia, infant botulism is treated in a hospital...")
- **Given $L \implies B$, it can be inferred: If K , then E .**
("...it can be inferred that if most kittens go to homes, then eternal law governs morality and nature.")
- Some people *mistakenly* believe A . (So A itself is presumably **not** true in reality.)
- There is a conditional about people mistakenly believing "if K then $\neg E$ " leading to statements about W , but none of that directly addresses actual kitten health or respiratory diseases.
- We also have a disjunction involving adhesive coating or a conditional about web pages:

"...either A or [if some people mistakenly believe (if K then $\neg E$), then $\neg W$]."

Since some people mistakenly believe A , this side of the disjunction is presumably the "true disjunct" in that either/or statement.

Evaluating the Statement

The **statement** is:

"The statement that states kittens are much more susceptible than adult cats to all respiratory diseases is false."

Call this new proposition \mathcal{R} : "Kittens are much more susceptible than adult cats to all respiratory diseases." Our statement to evaluate is $\neg \mathcal{R}$: " \mathcal{R} is false."

Within the paragraph, there is **no mention** of respiratory diseases, nor of kittens being “more susceptible” to them. The entire discussion focuses on kittens going to homes, eternal law, adhesive coatings, web pages, and infant botulism. Nothing logically links \mathcal{R} (respiratory diseases) to any of the premises.

Since the paragraph neither supports nor contradicts $\neg\mathcal{R}$, we cannot conclude that $\neg\mathcal{R}$ is either proven or disproven.

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: Those that suggest some porpoises wash up on beaches are wrong. On the condition that we know that the claim that if the statement 'ice skating is probably one of the healthiest forms of exercise' can be considered false, then we know that the claim that ironworkers use safety belts, scaffolding, and nets to reduce the risk of falls is false is false, it is definitely the case that food supplies the substances that help regulate the body's processes. The notion that 'food supplies the substances that help regulate the body's processes' is untrue. So long as the notion that 'if the statement 'ice skating is probably one of the healthiest forms of exercise' can be considered false, then ironworkers use safety belts, scaffolding, and nets to reduce the risk of falls' is untrue, 'neurons are somatic cells' is true. Assuming neurons are somatic cells, we know that some porpoises wash up on beaches.

Statement: Ice skating is a new and innovative idea that has been around for centuries.

Answer:



Let's parse the paragraph step by step and label the propositions for clarity:

1. P : "Some porpoises wash up on beaches."

- The paragraph begins by saying those who suggest P "are wrong," which implies $\neg P$ (it is **not** the case that some porpoises wash up on beaches).

2. There is a complex conditional regarding:

- "If the statement 'ice skating is probably one of the healthiest forms of exercise' can be considered false, then we know the claim that ironworkers use safety belts, scaffolding, and nets to reduce the risk of falls is false."

Let's call:

- I : "The statement 'ice skating is probably one of the healthiest forms of exercise' can be considered false."
- R : "The claim that ironworkers use safety belts ... is false."

The paragraph references someone's claim: "If I then R ."

3. Another claim references "food supplies the substances that help regulate the body's processes."

Let's call that:

- F : "Food supplies the substances that help regulate the body's processes."
The paragraph states "The notion that F is untrue," so $\neg F$.

4. There is also a mention: "So long as the notion that 'if I then $\neg R$ ' is untrue, 'neurons are somatic cells' is true." Let:

- N : "Neurons are somatic cells."

The paragraph says if a certain statement about I and $\neg R$ is untrue, then N is true. The text then says, "Assuming N , we know that P ." But recall the paragraph initially said those who suggest P are wrong ($\neg P$). This is obviously contradictory or at least very tangled.

Regardless, **no part** of this discussion addresses the idea of "ice skating" being "a new and innovative idea that has been around for centuries." The paragraph only mentions "ice skating is probably one of

the healthiest forms of exercise," which is **not** the same statement as "ice skating is a new and innovative idea that has been around for centuries."

The Statement to Evaluate

"Ice skating is a new and innovative idea that has been around for centuries."

This claim does **not** appear anywhere in the paragraph's logical premises, nor is there any premise linking it to the discussion about ice skating being healthy, let alone "new and innovative" or "around for centuries." Thus, the paragraph neither supports nor contradicts this specific statement.

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually

markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false. Therefore, the final answer is FALSE.

Paragraph: There is good reason to believe that either cannabis is a term that refers to marijuana and other drugs made from the same plant or most animals change slowly over centuries - a process of gradual evolution. Provided that most animals change slowly over centuries - a process of gradual evolution, we know that the claim that either ants are books or some people have surgery to remove the part of the brain where the seizures originate has no merit. It is a fact that either water comes from condensed moisture in the fuel tanks or nematodes are tiny worms that infect the weevil larvae and adults. Provided that water comes from condensed moisture in the fuel tanks, we know that if the statement, if cannabis is a term that refers to marijuana and other drugs made from the same plant, then the claim that either ants are books or some people have surgery to remove the part of the brain where the seizures originate has no merit, does not hold, then higher education provides a wide range of individual, societal, and economic benefits. Whenever it is true that nematodes are tiny worms that infect the weevil larvae and adults, 'if the statement, if cannabis is a term that refers to marijuana and other drugs made from the same plant, then the claim that either ants are books or some people have surgery to remove the part of the brain where the seizures originate has no merit, does not hold, then higher education provides a wide range of individual, societal, and economic benefits' is true. There is good reason to believe that either herbivores require food or the statement, higher education provides a wide range of individual, societal, and economic benefits, does not hold. We know that the claim that herbivores require food is false.

Statement: The claim that either ants are books or some people have surgery to remove the part of the brain where the seizures originate has no merit.

Answer:



Let's label the key propositions in the paragraph to keep track of what is going on:

1. E : "Cannabis is a term that refers to marijuana and other drugs made from the same plant."
2. P : "Most animals change slowly over centuries—a process of gradual evolution."

The paragraph starts by saying:

"There is good reason to believe that either E or P ."

Symbolically: $E \vee P$.

3. M : "The claim that either ants are books or some people have surgery to remove the part of the brain where the seizures originate has no merit."

The paragraph also states:

"Provided that P , we know that M ."

In other words: $P \implies M$.

4. W : "Water comes from condensed moisture in the fuel tanks."
5. N : "Nematodes are tiny worms that infect the weevil larvae and adults."

Next, we see:

"It is a fact that either W or N ."

Symbolically: $W \vee N$.

6. There is a more complicated conditional about "if the statement $E \implies \neg M$ does not hold, then higher education provides benefits" — and similarly for N . Then a further disjunction about herbivores requiring food, etc. The details become quite intricate, but the crucial puzzle revolves around whether M is actually true or false.

Focusing on M

We do see an explicit statement:

"Provided that P , we know that M ."

Thus, if P is true, then M is true. But in the paragraph, it is also stated:

"There is good reason to believe that either E or P ."

Hence the logic structure for $E \vee P$ and $P \implies M$ is:

- If P holds, then M follows.
- If E holds instead, we are told nothing (in the paragraph) about whether M is true or false. There is no premise stating $E \implies M$ or $E \implies \neg M$.

Therefore, from $E \vee P$ and $P \implies M$ alone, we cannot definitively conclude M . If P happens to be the true disjunct, then M is true; if E is the true disjunct, the paragraph provides no information about M .

No other premises in the paragraph give a direct resolution of whether E or P actually holds—nor do they give a definitive statement about M in the case that E is true.

Conclusion

The **statement** to be evaluated is M :

"The claim that either ants are books or some people have surgery to remove the part of the brain where the seizures originate has no merit."

The paragraph's premises show that **if** P is true, **then** M is true. But we only know $E \vee P$; we do **not** know that P definitely holds. Therefore, the paragraph's information **neither** guarantees M nor refutes M .

UNCERTAIN



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Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: We know that at least one of two things is true: most jasmine has dark foliage, or ZIP is a compression and archiving format that makes downloading files faster and easier. One may reasonably assume that if ZIP is a compression and archiving format that makes downloading files faster and easier, then kopi means coffee in English. When seaweed is marine organisms is true, it follows that kopi means coffee in English. There is good reason to believe that either dolphins do back flips and dolphins always play basketball or some mallards float in ponds. Whenever it is true

that some mallards float in ponds, 'if most jasmine has dark foliage, then seaweed is marine organisms' is true. So long as dolphins do back flips and dolphins always play basketball, 'asexual reproduction is common in higher groups of organisms iv' is true. Provided that asexual reproduction is common in higher groups of organisms iv, we know that if most jasmine has dark foliage, then seaweed is marine organisms.

Statement: It is fair to say that copi means coffee in English.

Answer:



Let's label the key propositions clearly:

1. J : "Most jasmine has dark foliage."
2. Z : "zIP is a compression and archiving format that makes downloading files faster and easier."
3. C : "copi means coffee in English."
4. S : "Seaweed is marine organisms."
5. D : "Dolphins do back flips and dolphins always play basketball."
6. M : "Some mallards float in ponds."
7. A : "Asexual reproduction is common in higher groups of organisms iv."

From the paragraph, we have the following premises:

$$1. J \vee Z$$

"We know that at least one of two things is true: most jasmine has dark foliage **or** zIP is a compression...."

$$2. Z \implies C$$

"If zIP is a compression format, then copi means coffee in English."

$$3. S \implies C$$

"When seaweed is marine organisms is true, it follows that copi means coffee in English."

$$4. D \vee M$$

"Either dolphins do back flips and play basketball (D) **or** some mallards float in ponds (M)."

$$5. \text{If } M, \text{ then } (J \implies S).$$

"Whenever M is true, then 'if J then S ' is true."

$$6. \text{If } D, \text{ then } A.$$

"So long as dolphins do back flips, etc., asexual reproduction is common... is true (A)."

$$7. \text{If } A, \text{ then } (J \implies S).$$

"Provided A is true, then 'if J then S ' is true."

Putting 5, 6, and 7 together:

- From $D \vee M$ (premise 4):
 - If D is true, then A is true (premise 6), which in turn gives $J \implies S$ (premise 7).
 - If M is true, then $J \implies S$ directly (premise 5).

No matter which disjunct (D or M) is true, we end up with $J \implies S$.

Deriving C

Now consider $J \vee Z$ (premise 1) alongside:

- $J \implies S$ (just derived), and
- $S \implies C$ (premise 3),
- $Z \implies C$ (premise 2).

We can see a **constructive dilemma** pattern:

- **Case 1:** J is true. Then $J \implies S$. So S is true, and from $S \implies C$, we get C .
- **Case 2:** Z is true. Then $Z \implies C$. So again we get C .

Thus, whether J or Z is the true disjunct, in both cases we conclude C : "copi means coffee in English."

Final Conclusion

The **statement** to evaluate is:

"It is fair to say that copi means coffee in English."

Because our premises lead (in either branch of the disjunctions) to C , the paragraph **supports** the statement that copi means coffee in English.

TRUE



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use

tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: The claim that phones are used for calling does not correspond with reality. One may reasonably assume that if psychic ownership is the idea that employees feel, think and act like owners, then if those that suggest lead toxicity causes haematological, gastrointestinal and neurological dysfunctions are wrong, then phones are used for calling. It is a fact that either bullies also report less feelings of closeness to their siblings or either psychic ownership is the idea that employees feel, think and act like owners or cortisol is steroids. The claim that bullies also report less feelings of closeness to their siblings has no merit. Either fleas deposit small white eggs on the animal, which usually fall off into the bedding area or if cortisol is steroids, then if those that suggest lead toxicity causes haematological, gastrointestinal and neurological dysfunctions are wrong, then phones are used for calling. We know that the claim that fleas deposit small white eggs on the animal, which usually fall off into the bedding area is false.

Statement: It is not true that lead toxicity causes haematological, gastrointestinal and neurological dysfunctions.

Answer:



First, let's label the propositions so we can parse the paragraph systematically:

1. P : "Phones are used for calling."
2. O : "Psychic ownership is the idea that employees feel, think, and act like owners."
3. L : "Lead toxicity causes haematological, gastrointestinal, and neurological dysfunctions."
4. B : "Bullies also report less feelings of closeness to their siblings."
5. C : "Cortisol is steroids."
6. F : "Fleas deposit small white eggs on the animal, which usually fall off into the bedding area."

From the paragraph, we gather:

1. $\neg P$

"The claim that phones are used for calling does not correspond with reality."
So, it is explicitly stated that P is false.

2. A conditional statement about O and L leading to P :

"One may reasonably assume that if O (psychic ownership ...), then if $\neg L$ (i.e., if those that suggest lead toxicity is true are wrong), then P ."
Symbolically:

$$O \implies (\neg L \implies P).$$

3. We also know a triple disjunction:

"Either B or O or C ."
Symbolically:

$$B \vee O \vee C.$$

4. $\neg B$

"The claim that bullies also report less feelings of closeness ... has no merit."
So B is false.

5. Another disjunction with a conditional:

"Either F or $(C \implies (\neg L \implies P))$."
Symbolically:

$$F \vee (C \implies (\neg L \implies P)).$$

6. $\neg F$

"We know that the claim that fleas deposit small white eggs ... is false."

Putting 5 and 6 together:

- From $F \vee (C \implies (\neg L \implies P))$ and $\neg F$, by **Disjunctive Syllogism**, we deduce:

$$C \implies (\neg L \implies P).$$

7. Combining 3, 4, and 6:

- We have $B \vee O \vee C$.
- But B is false ($\neg B$) and that doesn't tell us about C being false or true.
- So from $B \vee O \vee C$ and $\neg B$, we get $O \vee C$.
(We do **not** know which of O or C is true—maybe both, maybe just one.)

8. Let's gather the conditionals about leading to P :

- $O \implies (\neg L \implies P)$.
- $C \implies (\neg L \implies P)$.

If either O or C is true, we get " $\neg L \implies P$."

9. From 7, we have $O \vee C$. So, either way:

$$\neg L \implies P.$$

10. But we already have $\neg P$ from premise (1). If P is false, then " $\neg L \implies P$ " yields some interesting logic:

- In propositional logic, " $\neg L \implies P$ " is logically equivalent to " $\neg P \implies L$."
- We know $\neg P$ is true. So by Modus Ponens on " $\neg P \implies L$," we deduce:

L (i.e., lead toxicity **does** cause those dysfunctions).

Thus, from the premises, we conclude L **must** be **true**.

Evaluating the Statement

The statement to be evaluated is:

"It is not true that lead toxicity causes haematological, gastrointestinal and neurological dysfunctions."

Symbolically, that is $\neg L$. But from our reasoning, we just concluded L must be **true**. Therefore, the statement " $\neg L$ " is **contradicted** by the premises.

FALSE



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: One may reasonably assume that if indentations are space, then a facial is a beauty treatment. We know that at least one of two things is true: soccer is a football, or many Internet companies use ad agencies to sell advertising on their site. Given that many Internet companies use ad agencies to sell advertising on their site, it can be inferred that indentations are space. One may reasonably assume that if soccer is a football, then some rays eat crabs. We know that at least one of two things is true: active dogs can burn off energy, or if some rays eat crabs, then indentations are space. The claim that active dogs can burn off energy has no merit.

Statement: The statement, a facial is a beauty treatment, does not hold.

Answer:



Let's define the relevant propositions:

1. iS : "Indentations are space."
2. F : "A facial is a beauty treatment."
3. S_0 : "Soccer is a football."
4. I : "Many Internet companies use ad agencies to sell advertising on their site."
5. R : "Some rays eat crabs."

6. D : "Active dogs can burn off energy."

From the paragraph, we extract these key premises:

1. $iS \implies F$

"One may reasonably assume that **if indentations are space, then a facial is a beauty treatment.**"

2. $S_0 \vee I$

"We know that at least one of two things is true: **soccer is a football, or many Internet companies use ad agencies...**"

3. $I \implies iS$

"Given that **many Internet companies use ad agencies**, it can be inferred that **indentations are space.**"

4. $S_0 \implies R$

"One may reasonably assume that **if soccer is a football, then some rays eat crabs.**"

5. $D \vee (R \implies iS)$

"We know that at least one of two things is true: **active dogs can burn off energy, or if some rays eat crabs, then indentations are space.**"

6. $\neg D$

"The claim that active dogs can burn off energy has no merit."
So D is false.

Step-by-Step Reasoning

1. **From $(S_0 \vee I)$ and the paragraph's statement about I**

The paragraph explicitly says "Given that many Internet companies use ad agencies... it can be inferred that indentations are space." That means I is **actually** taken to be true.

Thus, from I and $I \implies iS$, we conclude iS is true.

2. **From iS and $(iS \implies F)$**

By Modus Ponens, since iS is true, it follows that F ("A facial is a beauty treatment") is true.

3. **Check the disjunction $D \vee (R \implies iS)$ and $\neg D^{**}$**

Since D is false, the only way $D \vee (R \implies iS)$ can be true is if $(R \implies iS)$ is true. That's consistent with (and does not contradict) the already-established iS . This step doesn't alter our conclusion about F .

Therefore, from the premises we have deduced F is **true**: "A facial is a beauty treatment."

Conclusion

The **statement** to evaluate is:

"The statement, 'a facial is a beauty treatment,' does not hold."

Symbolically, that is $\neg F$. But the premises lead to F being **true**, so $\neg F$ is contradicted by the paragraph.

FALSE



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or

power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: Once we know elastic stains show breakage and retraction of the elastic fibers in the reticular dermis, we also know that women retire with far less retirement income, smaller pensions and less savings. When either pirates know locations or deism is rationalism is true, it follows that if elastic stains show breakage and retraction of the elastic fibers in the reticular dermis, then some people mistakenly believe that women retire with far less retirement income, smaller pensions and less savings. We know that at least one of two things is true: if some doctors now recommend that people supplement only with natural beta-carotene, then muslim men can divorce by simply pronouncing triple talak and can have up to four wives, or fjord occurs along subduction zones. Should it be the case that if some doctors now recommend that people supplement only with natural beta-carotene, then muslim men can divorce by simply pronouncing triple talak and can have up to four wives, it follows that either pirates know locations or deism is rationalism. Some people mistakenly believe that thrips are common transport vehicles for the viruses. We know that either creeds have their rightful function in every land or if some people mistakenly believe that if fjord occurs along subduction zones, then either pirates know locations or deism is rationalism, then thrips are common transport vehicles for the viruses. The notion that 'creeds have their rightful function in every land' is untrue.

Statement: The claim that lobbyists are persuaders is false.

Answer:



Let's outline the main propositions in the paragraph and see whether any of them mentions "lobbyists are persuaders" or anything logically linked to that:

1. **Elastic stains** show breakage and retraction of elastic fibers in the reticular dermis.
2. **Women retire** with far less retirement income, smaller pensions, and less savings.
3. **Pirates know locations** or **deism is rationalism** (various conditionals relate to these).
4. **If some doctors recommend only natural beta-carotene, then Muslim men can divorce...**
5. **Fjord occurs along subduction zones** (another piece that connects to the pirates/deism disjunction).
6. **Thrips as common transport vehicles for viruses** or references to them being mistakenly believed.
7. **Creeds have their rightful function** in every land (the paragraph says this is untrue).

The statement to be evaluated is:

"The claim that lobbyists are persuaders is false."

However, the paragraph makes no mention whatsoever of "lobbyists," "persuaders," or anything logically related to that. Since there is no premise supporting or contradicting whether "lobbyists are persuaders," the paragraph's content does not help us determine the truth of that statement.

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: At least one of two things is true: if place names can tell the history of an area, then most violent disorder has effects, or computers use seasons in calculations. Provided that if place names can tell the history of an area, then most violent disorder has effects, we know that either grilled foods can be high in carcinogens due to exposure to an open flame or microwave ovens consume the least amount of energy and are highly space efficient. On the condition that computers use seasons in calculations, it is definitely the case that either grilled foods can be high in carcinogens due to exposure to an open flame or microwave ovens consume the least amount of energy and are highly space efficient. Should it be the case that it is not true that if grilled foods can

be high in carcinogens due to exposure to an open flame, then either medical conditions are events or duckweeds have a worldwide distribution, especially temperate and tropical regions, it follows that black tea is kind of like afternoon tea when a family finish the butter tea made in the morning. The statement that 'black tea is kind of like afternoon tea when a family finish the butter tea made in the morning' is incorrect. On the condition that the statement that states if microwave ovens consume the least amount of energy and are highly space efficient, then either medical conditions are events or duckweeds have a worldwide distribution, especially temperate and tropical regions is false, it is definitely the case that the statement that states men die in just months after exposure is false. It is rational to believe that either lower sulfur means cleaner air or if the statement that states if microwave ovens consume the least amount of energy and are highly space efficient, then either medical conditions are events or duckweeds have a worldwide distribution, especially temperate and tropical regions is false, then men die in just months after exposure. The statement that 'lower sulfur means cleaner air' is incorrect.

Statement: The claim that either medical conditions are events or duckweeds have a worldwide distribution, especially temperate and tropical regions does not correspond with reality.

Answer:



First, let's label the key propositions referenced in the paragraph so we can keep track of them:

1. H : "If place names can tell the history of an area, then most violent disorder has effects."
2. C : "Computers use seasons in calculations."
3. G : "Grilled foods can be high in carcinogens due to exposure to an open flame."
4. M : "Microwave ovens consume the least amount of energy and are highly space efficient."
5. K : "Medical conditions are events."
6. D : "Duckweeds have a worldwide distribution, especially in temperate and tropical regions."
7. B : "Black tea is kind of like afternoon tea when a family finish the butter tea made in the morning."
8. X : "Men die in just months after exposure."
9. S : "Lower sulfur means cleaner air."

We also see references to various conditionals about those propositions. Let's piece them together:

1) Disjunction about H or C

"At least one of two things is true: (H) or (C)."

Symbolically:

$$H \vee C.$$

2) From H , we get a disjunction about G or M

"Provided H , we know that either G or M ."

Symbolically:

$$H \implies (G \vee M).$$

3) From C , we also get the same disjunction about G or M

"On the condition that C , it is definitely the case that either G or M ."

Symbolically:

$$C \implies (G \vee M).$$

So in either case (H or C), we conclude $G \vee M$. Thus, from $H \vee C$, we can deduce $G \vee M$ by

Constructive Dilemma:

1. $H \vee C$
 2. $H \implies (G \vee M)$
 3. $C \implies (G \vee M)$
- $$\implies (G \vee M).$$

Hence, no matter which side (H or C) is the true one, we end up with $G \vee M$.

4) Next, a statement about G leading to $K \vee D$ is mentioned in negated form

"Should it be the case that it is **not** true that ($G \implies (K \vee D)$), it follows that B .
The statement B is incorrect."

Symbolically, they say:

- "If $\neg(G \implies (K \vee D))$, then B ."
- And we are told B is false ($\neg B$).

So from " $\neg(G \implies (K \vee D)) \implies B$ " and " $\neg B$," we can do **Modus Tollens**:

1. $\neg(G \implies (K \vee D)) \implies B$.
 2. $\neg B$.
- $$\implies \neg[\neg(G \implies (K \vee D))].$$

Which simplifies to:

$$G \implies (K \vee D).$$

So the logic forces $G \implies (K \vee D)$ to be **true** (i.e., "If grilled foods can be high in carcinogens, then either medical conditions are events or duckweeds are worldwide").

5) A statement about M leading to $(K \vee D)$ is also mentioned in negated form

"On the condition that the statement that says $(M \implies (K \vee D))$ is false, it is definitely the case that X is false."

Then they say:

"It is rational to believe that **either** S **or** $[(M \implies (K \vee D)) \text{ is false} \implies X]$.
The statement that S is incorrect."

So we have:

- "If $\neg(M \implies (K \vee D))$, then $\neg X$."
- The final disjunction is:

$$S \vee (\neg(M \implies (K \vee D)) \implies \neg X).$$

- And $\neg S$ is given.

By **Disjunctive Syllogism**, since $\neg S$ is true, the only way the disjunction is true is if $[\neg(M \implies (K \vee D)) \implies \neg X]$ is true. That means:

$$\neg(M \implies (K \vee D)) \implies \neg X.$$

But do we know whether $M \implies (K \vee D)$ is actually true or false? Let's see:

6) We have already deduced $G \vee M$.

Case 1: G is true.

- From step 4, if G is true, then $K \vee D$ must be true. So in that scenario, we do not necessarily know anything about M . Possibly M is false. Possibly it's also true but we don't see a contradiction.

Case 2: M is true.

- If M is true, do we have " $M \implies (K \vee D)$ "? The paragraph states it only in a negated conditional scenario: "If $\neg(M \implies (K \vee D))$, then $\neg X$." We do not see a direct premise that " $M \implies (K \vee D)$ " must hold, the text only says: If that implication were false, we'd get $\neg X$.

Given no direct contradiction arises, we can't definitely conclude if $M \implies (K \vee D)$ is true or false. Thus, we also cannot conclude whether X is true or false.

The Statement to Evaluate

"The claim that either medical conditions are events or duckweeds have a worldwide distribution, especially temperate and tropical regions **does not correspond with reality**."

Symbolically, that statement is $\neg(K \vee D)$. But let's see what we do know:

- If G is true, then from $G \implies (K \vee D)$, we get $K \vee D$. So $\neg(K \vee D)$ would be false in that scenario.

- If M is true, do we necessarily get $K \vee D$? Not definitively from the given text. Possibly yes, possibly no. We do not have conclusive premises that guarantee or refute " $K \vee D$."

However, we do **not** know which of G or M actually holds. The text's logic only states $(G \vee M)$. Let's break it down:

- **If** G is the true disjunct, then we get $K \vee D$. This would make " $\neg(K \vee D)$ " false.
- **If** M is the true disjunct, the paragraph does **not** give a definitive premise forcing or negating $K \vee D$. So " $K \vee D$ " might be either true or false.

Hence, in one scenario (G true), $\neg(K \vee D)$ is definitely false. In another scenario (M true), we do **not** know. Since the paragraph doesn't let us decide which disjunct is actually true, we cannot definitively say " $\neg(K \vee D)$ " must be false in all cases or must be true in all cases.

Conclusion

The premises do **not** categorically prove or disprove " $\neg(K \vee D)$." In one branch, we would have a contradiction to $\neg(K \vee D)$, but in the other branch we have no conclusion. Therefore, from the paragraph alone, we cannot say that " $\neg(K \vee D)$ " (i.e., " $K \vee D$ does not correspond with reality") is forced to be false or forced to be true. The premises do not settle it definitively.

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted

children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some

snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: It is a fact that either anomia is a difficulty in finding the correct word to describe an object, action, or situation or genes are made up of DNA molecules, which are the building blocks of heredity. One may reasonably assume that if anomia is a difficulty in finding the correct word to describe an object, action, or situation, then the claim that nurses are engaged in duties has no merit. Assuming genes are made up of DNA molecules, which are the building blocks of heredity, we know that the claim that nurses are engaged in duties has no merit. So long as the claim that either nurses are engaged in duties or groundhogs are great diggers with curved thick claws does not correspond with reality, 'many abstainers choose to avoid intercourse but engage in other forms of sexual intimacy' is true. When many abstainers choose to avoid intercourse but engage in other forms of sexual intimacy is true, it follows that residential mobility is part and parcel of economic mobility. One may reasonably assume that if the claim that either nurses are engaged in duties or groundhogs are great diggers with curved thick claws does not correspond with reality, then computers support learning in mathematics, language arts, science and social studies. One may reasonably assume that if computers support learning in mathematics, language arts, science and social studies, then the notion that 'residential mobility is part and parcel of economic mobility' is untrue.

Statement: It is a common misconception that groundhogs are great diggers with curved thick claws.

Answer:



Let's label the key propositions in the paragraph:

1. A : "Anomia is a difficulty in finding the correct word to describe an object, action, or situation."
2. G : "Genes are made up of DNA molecules, which are the building blocks of heredity."
3. N : "Nurses are engaged in duties."
4. H : "Groundhogs are great diggers with curved thick claws."
5. E : "Either nurses are engaged in duties or groundhogs are great diggers with curved thick claws."
 - In other words, $E = (N \vee H)$.

6. X : "Many abstainers choose to avoid intercourse but engage in other forms of sexual intimacy."
7. R : "Residential mobility is part and parcel of economic mobility."
8. C : "Computers support learning in mathematics, language arts, science, and social studies."

From the paragraph:

1. We have a fact: **either A or G** . Whichever is true leads to "the claim that nurses are engaged in duties has no merit." In effect, N is false.
2. The paragraph then refers to:

"So long as the claim that either nurses are engaged in duties **or** groundhogs are great diggers ... does not correspond with reality, X is true."

Saying " $E = (N \vee H)$ does not correspond with reality" means E is false, i.e. $\neg(N \vee H)$. By De Morgan's laws, that implies $\neg N \wedge \neg H$.

- We already have $\neg N$ from step 1.
- Therefore, for $\neg(E)$ to hold, we also need $\neg H$: "Groundhogs are **not** great diggers with curved thick claws."

Hence, the text implies that E is indeed false—so H must be false.

3. The statement we must evaluate is:

"It is a common misconception that groundhogs are great diggers with curved thick claws."

Translated: "Groundhogs **are not** actually great diggers (the claim is false), but people may believe otherwise." The paragraph's logic shows us that the proposition " H " is false. This matches the idea that it's a 'misconception' for anyone who believes H .

Since the paragraph directly indicates $\neg H$, the statement that "it is a *common misconception* that groundhogs are great diggers with curved thick claws" is consistent with the paragraph's conclusion that H is false.

TRUE



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: Should it be the case that the statement that 'if the statement, rocks have a different kind of grain or cross section, does not hold, then cups fill with favorite beverages' is incorrect, it follows that some ice has claws. Those that suggest some ice has claws are wrong. Once we know some women have dental problems during pregnancy, we also know that if the statement, rocks have a different kind of grain or cross section, does not hold, then the statement that 'cups fill with favorite beverages' is incorrect. Given that the statement 'some women have dental problems during pregnancy' can be considered false, it can be inferred that sharks can detect tiny amounts of blood. Either one or both of these statements are true: risk communication is a special area of communication, or if the statement 'some women have dental problems during pregnancy' can be considered false, then the claim that sharks can detect tiny amounts of blood does not correspond with reality. Some people mistakenly believe that risk communication is a special area of communication.

Statement: Rocks are made up of one or more minerals .

Answer:



Let's parse the paragraph carefully to see whether there is any mention—or logical consequence—regarding “rocks are made up of one or more minerals.” The paragraph discusses:

- A hypothetical about “if the statement ‘rocks have a different kind of grain or cross section’ does not hold, then cups fill with favorite beverages,”
- “some ice has claws,”
- “some women have dental problems during pregnancy,”
- “sharks can detect tiny amounts of blood,”
- “risk communication” being or not being “a special area of communication,”

but nowhere is there a claim or premise about “rocks are made up of one or more minerals.” There is only a statement about “rocks have a different kind of grain or cross section,” which is not logically connected to any premise about their mineral composition. Thus, the paragraph neither supports nor contradicts

“Rocks are made up of one or more minerals.”

Since the paragraph is silent on this point, we cannot conclude from its premises that the statement is true or false.

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.
 Premise 2: The claim that most dolphins have year lifespans does not reflect reality.
 Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.
 Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.
 Therefore, the final answer is FALSE.

Paragraph: It is reasonable to believe that amphetamines can be habit-forming for some people. The statement that 'dragon is a mythical creature' is incorrect. Assuming amphetamines can be habit-forming for some people, we know that allergies accompany or contribute to ear infection in many instances. Provided that allergies accompany or contribute to ear infection in many instances, we know that either biennials live two years before they produce their seeds and die or the claim that encryption allows information to be translated into un-decipherable code is false. We know that either conspirators are criminals or either dragon is a mythical creature or it is a common misconception that biennials live two years before they produce their seeds and die. The claim that conspirators are criminals has no merit.

Statement: The claim that encryption allows information to be translated into un-decipherable code is false.

Answer:



Let's label the key propositions in the paragraph:

1. A : "Amphetamines can be habit-forming for some people."
2. D : "Dragon is a mythical creature."
3. S : "Allergies accompany or contribute to ear infection in many instances."
4. B : "Biennials live two years before they produce their seeds and die."
5. E_F : "The claim that encryption allows information to be translated into un-decipherable code is false."
6. C : "Conspirators are criminals."
7. $MC(B)$: "It is a common misconception that B ."

From the paragraph:

1. D is false

"The statement that 'dragon is a mythical creature' is incorrect."
 So we have $\neg D$.

2. A is taken to be true (or at least "reasonable to believe" and then used in the argument).

The paragraph states, "It is reasonable to believe that amphetamines can be habit-forming," and on that assumption:

"Assuming amphetamines can be habit-forming (A), we know S ."

Symbolically: $A \implies S$.

Since we accept A , we get S .

3. **If S , then $(B \vee E_F)$.**

"Provided that allergies ... we know that either B or [encryption-claim is false]."

Symbolically: $S \implies (B \vee E_F)$.

4. $(C \vee D \vee MC(B))$

"We know that either conspirators are criminals **or** dragon is mythical **or** it is a common misconception that B ."

5. **C is false**

"The claim that conspirators are criminals has no merit."

So $\neg C$.

Since we also have $\neg D$, the triple disjunction $(C \vee D \vee MC(B))$ forces $MC(B)$ to be true.

- "It is a common misconception that B " means B itself is actually **false** (i.e., people mistakenly believe B , but B is not true).

Thus:

- We deduce B is false.
- We have $S \implies (B \vee E_F)$, but B is false, so the only way $B \vee E_F$ can hold is if E_F is true.

Since S is true (from A), it follows $B \vee E_F$ must be true, but B is false, so

E_F is true.

Recall E_F says: "The claim that encryption allows information to be translated into un-decipherable code is false." The **Statement** to evaluate is exactly that claim. We have logically deduced that E_F is **true**.

TRUE



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use

tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: The statement, hind legs are part of quadrupeds, does not hold. When the statement that states either hind legs are part of quadrupeds or the statement that 'mammals have hair or fur on their bodies' is incorrect is false is true, it follows that unemployment is one of the serious problems in quite a number of countries in Southeast Asia. At least one of two things is true: either nonverbal communication involves using body language to convey a message or maladaptive abnormalities can cause suffering and social discomfort, or either all radon gas has a parent nucleus of lead or most trees yield pinyon nuts. Once we know either nonverbal communication involves using body language to convey a message or maladaptive abnormalities can cause suffering and social discomfort, we also know that either either ocelots have vision or most physicians have chronic pain sufferers taper off a drug in a matter of days or the claim that unemployment is one of the serious problems in quite a number of countries in Southeast Asia does not correspond with reality. One may reasonably assume that if either all radon gas has a parent nucleus of lead or most trees yield pinyon nuts, then either either ocelots have vision or most physicians have chronic pain sufferers taper off a drug in a matter of days or the claim that unemployment is one of the serious problems in quite a number of countries in Southeast Asia does not correspond with reality. One may reasonably assume that if either teamwork is the hallmark of all successful organizations or losses coincide with declines in cardiovascular function and metabolic potential, then the statement that states either ocelots have vision or most physicians have chronic pain sufferers taper off a drug in a matter of days is false. We know that either teamwork is the hallmark of all successful organizations or losses coincide with declines in cardiovascular function and metabolic potential.

Statement: The statement that 'mammals have hair or fur on their bodies' is incorrect.

Answer:



Let's label the key propositions to keep track of them clearly:

1. H : "Hind legs are part of quadrupeds."
 - The paragraph states this is false: "The statement, hind legs are part of quadrupeds, does not hold." Hence $\neg H$.
2. M : "Mammals have hair or fur on their bodies."
 - The statement we're evaluating is whether M is incorrect, i.e., is $\neg M$ true?
3. The paragraph also references several other propositions involving "unemployment," "nonverbal communication," "ocelots have vision," etc. But the key question is whether anything in the text forces $\neg M$ to be either true or false.

Reading the Paragraph's Logic

- It begins by saying H is false ($\neg H$).
- Next, it describes a scenario: "When the statement that states either H or $\neg M$ is false is true, it follows that unemployment is a serious problem in Southeast Asia."

Symbolically:

1. " $(H \vee \neg M)$ is false" \implies "Unemployment is a serious problem."

Being "false" means neither H nor $\neg M$ holds, i.e. $\neg(H \vee \neg M)$, which is $\neg H \wedge M$. We already know $\neg H$ is true, so that part ($\neg H$) is consistent. But does that force M to be true, or does the text somewhere assume " $\neg(H \vee \neg M)$ is false," or " $\neg(H \vee \neg M)$ is true"? The paragraph is quite convoluted, referencing many conditions about "either/or" statements, but it never gives a direct conclusion about $\neg M$ or M .

- The rest of the paragraph discusses sets of disjunctions about "nonverbal communication," "maladaptive abnormalities," "all radon gas," "most trees yield pinyon nuts," etc. but nothing directly addresses whether "mammals have hair or fur" is in fact false or proven true.

Thus, **nowhere** does the paragraph logically conclude $\neg M$ (that the statement "mammals have hair or fur on their bodies" is incorrect), nor does it conclude M . It only references that combination ($H \vee \neg M$) as part of a more complex condition that triggers talk about "unemployment." But that condition is never pinned down as absolutely true or false.

Conclusion

Because the paragraph provides **no** definitive chain of reasoning establishing $\neg M$ or M , it **neither** supports **nor** contradicts "The statement that mammals have hair or fur on their bodies is incorrect."

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: If the claim that autologous transplantation uses the patient's own marrow has no merit, then falsifiable theories base on observations. It is a common misconception that corporations are creatures of both statute and contract. Given that human development is a broader concept a process of widening the range of people s choices, it can be inferred that if falsifiable theories base on observations, then corporations are creatures of both statute and contract. Provided that the

statement, if it is a common misconception that human development is a broader concept a process of widening the range of people s choices, then animals expend energy, does not hold, we know that municipal government is the first order of government and the cornerstone of Canadian democracy. Should it be the case that the statement, if it is a common misconception that human development is a broader concept a process of widening the range of people s choices, then animals expend energy, does not hold, it follows that the claim that municipal government is the first order of government and the cornerstone of Canadian democracy is false. Either one or both of these statements are true: picture elements are part of monitors, or radium is used in cancer therapy and luminescent paint. Assuming picture elements are part of monitors, we know that if it is a common misconception that human development is a broader concept a process of widening the range of people s choices, then the statement 'animals expend energy' can be considered false. Should it be the case that radium is used in cancer therapy and luminescent paint, it follows that if it is a common misconception that human development is a broader concept a process of widening the range of people s choices, then the statement 'animals expend energy' can be considered false.

Statement: Lymphatic nodules are the building units of larger lymphatic organs.

Answer:



Let's examine the paragraph carefully for any mention (or implication) about lymphatic nodules or larger lymphatic organs. The paragraph references:

- Autologous transplantation, falsifiable theories, corporations as creatures of statute/contract
- Human development as a broader concept, municipal government, picture elements in monitors, radium in cancer therapy
- Animals expending energy

No part of the text addresses anything about lymphatic nodules or their role as "building units of larger lymphatic organs." Hence, there is no logical derivation either supporting or contradicting that claim.

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
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- Constructive Dilemma
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You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement

- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that

it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.
 This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.
 Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.
 Premise 2: The claim that most dolphins have year lifespans does not reflect reality.
 Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.
 Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.
 Therefore, the final answer is FALSE.

Paragraph: Given that the claim that if if most nymph requires oxygenate water, then oyster isa bivalve, then fluctuations seem to represent effects of mutations in the virus or episodic immune reactions does not reflect reality, it can be inferred that salt can also go from sea to land. At least one of two things is true: either leptons have no strong interactions or most dietary treatments can have harmful effects, or if the claim that if if most nymph requires oxygenate water, then oyster isa bivalve, then fluctuations seem to represent effects of mutations in the virus or episodic immune reactions does not reflect reality, then it is not the case that salt can also go from sea to land. The statement, either leptons have no strong interactions or most dietary treatments can have harmful effects, does not hold. Assuming external exposure occurs when the radiation source is outside the body, we know that if most nymph requires oxygenate water, then diversity characterizes our lifestyles and experiences, our philosophies and our religious journeys. external exposure occurs when the radiation source is outside the body. Provided that the notion that 'if diversity characterizes our lifestyles and experiences, our philosophies and our religious journeys, then oyster isa bivalve' is untrue, we know that websites are an important aspect of a company's image, in any language. The claim that websites are an important aspect of a company's image, in any language does not correspond with reality.

Statement: The statement 'fluctuations seem to represent effects of mutations in the virus or episodic immune reactions' can be considered true.

Answer:



Let's label the key propositions to keep track of the paragraph's logic:

1. N : "Most nymph requires oxygenate water."
2. O : "Oyster is a bivalve."
3. F : "Fluctuations seem to represent effects of mutations in the virus or episodic immune reactions."
4. S : "Salt can also go from sea to land."
5. L : "Leptons have no strong interactions."
6. D : "Most dietary treatments can have harmful effects."
 - The paragraph says "Either L or D , or if (... then F) does not reflect reality, then $\neg S$."
7. $\neg(L \vee D)$: The paragraph explicitly states "The statement, either leptons have no strong interactions or most dietary treatments can have harmful effects, does not hold." So both L and D are false.
8. X : "External exposure occurs when the radiation source is outside the body." (We have "Assuming external exposure ... we know that if N , then diversity characterizes our lifestyles...")
9. W : "Websites are an important aspect of a company's image, in any language." (The paragraph says that W does not correspond with reality, i.e., $\neg W$.)

The major premise that ties F ("fluctuations...") into the discussion is:

"Given that the claim that if $N \implies O$, then F does not reflect reality, **it can be inferred that S .**"

And separately:

"At least one of two things is true: either $(L \vee D)$ **or** [if that same claim about $N \implies O$ then F does not reflect reality], then $\neg S$."

The statement $(L \vee D)$ does not hold."

From that we can see a structure like:

1. "If $\neg((N \implies O) \implies F)$, then S ."
2. "Either $(L \vee D)$ **or** $[\neg((N \implies O) \implies F) \implies \neg S]$."
3. But $\neg(L \vee D)$ (both L and D are false).

By **Disjunctive Syllogism** on (2) using $\neg(L \vee D)$, we get:

$$\neg((N \implies O) \implies F) \implies \neg S.$$

But from (1), we also have $\neg((N \implies O) \implies F) \implies S$.

Hence we get a contradiction: The same antecedent " $\neg((N \implies O) \implies F)$ " implies S **and** $\neg S$.

This is a **reductio ad absurdum** showing $\neg((N \implies O) \implies F)$ must be **false**. Therefore:

$$(N \implies O) \implies F$$

must be **true** (i.e. that claim does *reflect* reality).

But does this mean F ("Fluctuations...") is *actually* true in itself? Notice: " $(N \implies O) \implies F$ " only says *if* $N \implies O$ then F . We are *not* told that $N \implies O$ is true. There is no premise guaranteeing

"Most nymph requires oxygenate water \implies oyster is a bivalve" is *actually* true. So " $(N \implies O)$ " might be false, in which case $(N \implies O) \implies F$ doesn't force F .

No part of the paragraph ensures " $N \implies O$ " is true (it just says "if it's the case that that claim doesn't reflect reality, we get contradictions."). So we do *not* necessarily get F unconditionally. We only have a statement of the form:

If $(N \implies O)$, then F .

But we do not know if $(N \implies O)$ is true. Therefore, we cannot conclude F . The paragraph shows that " $(N \implies O) \implies F$ " must be true to avoid contradiction, but it never affirms $(N \implies O)$.

Hence the paragraph does **not** logically establish that "Fluctuations seem to represent effects of mutations in the virus or episodic immune reactions" is *actually* true. Nor does it contradict it. The entire structure focuses on conditionals, and we never see a premise that definitively triggers $(N \implies O)$. Without that, we cannot conclude F .

Conclusion: The paragraph neither proves nor disproves that F is true. We only deduce that "if $(N \implies O)$ is correct, then F ." But we do not know whether " $(N \implies O)$ is correct." Therefore, the final truth value for " F can be considered true" is not established by the paragraph.

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
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- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: We know that either capacitance is the ability to store charge or cox isa sailor. If if ovulatory problems are reversible by changing behavioral patterns, then weapons training emphasizes the basic postures and stances that are a fundamental part of aikido, then either if most petrol pumps have a small pipe inside the nozzle, then caffeinism is an intoxication or the statement, capacitance is the ability to store charge, does not hold. The claim that grooming cause gets is true. So long as the statement 'if ovulatory problems are reversible by changing behavioral patterns, then weapons training emphasizes the basic postures and stances that are a fundamental part of aikido' can be considered false, 'grubs are soft, worm-like lava of beetles' is true. The statement that states grubs are soft, worm-like lava of beetles is false. We know that either most epidermises have stomata or if grooming cause gets, then the claim that if most petrol pumps have a small pipe inside the nozzle, then caffeinism is an intoxication does not reflect reality. The statement that 'most epidermises have stomata' is incorrect.

Statement: A cox is a seaman.

Answer:



Let's identify the relevant propositions:

1. C : "Capacitance is the ability to store charge."
2. X : "Cox is a sailor (seaman)."

The paragraph states:

"We know that **either** capacitance is the ability to store charge **or** cox is a sailor."

Symbolically:

$$C \vee X.$$

However, the paragraph never tells us which disjunct (C or X) is actually the true one. Nor does it provide any other statement that forces us to accept or reject either C or X . Thus, there is no

conclusion that “cox is a sailor” (or equivalently “cox is a seaman”) must be true, and likewise no contradiction that would make it false.

Hence, from the paragraph alone, we cannot conclude whether “A cox is a seaman” is definitely true or definitely false.

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an

oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: One may reasonably assume that if mapping is another popular function of GEodynamics, then either some circuits use batteries or most acid dissolves calcites. It is a common misconception that some types of cancer are more likely to spread to the brain. It is a common misconception that duodenum stimulate alkaline secretion. When waitress is a waiter is true, it follows that either some types of cancer are more likely to spread to the brain or if tubing made from a copper-nickel alloy is used in desalination plants, then mapping is another popular function of GEodynamics. The statement 'waitress is a waiter' can be considered true. Either one or both of these statements are true: if circuits use electricity, then divers are very active in the weight room, tumbling and on the boards, or either polysaccharides are long chains of simple sugars that contain several hydroxyl groups on each sugar or teeth tend to change shades, usually yellow, with age. So long as if circuits use electricity, then divers are very active in the weight room, tumbling and on the boards, 'if the statement that states tubing made from a copper-nickel alloy is used in desalination plants is false, then duodenum stimulate alkaline secretion' is true. Whenever it is true that either polysaccharides are long chains of simple sugars that contain several hydroxyl groups on each sugar or teeth tend to change shades, usually yellow, with age, 'if the statement that states tubing made from a copper-nickel alloy is used in desalination plants is false, then duodenum stimulate alkaline secretion' is true.

Statement: It is a fact that either some circuits use batteries or most acid dissolves calcites.

Answer:



Let's label the relevant propositions to follow the paragraph's logic:

- M : "Mapping is another popular function of GEodynamics."
- B : "Some circuits use batteries."
- A : "Most acid dissolves calcites."

The paragraph states:

"One may reasonably assume that **if** M (mapping is another popular function of GEodynamics), **then** either B or A ."

Symbolically:

$$M \implies (B \vee A).$$

However, nothing in the paragraph tells us that M is definitely true. Since we only have a conditional $M \implies (B \vee A)$, and no premise actually asserts M , we cannot conclude $(B \vee A)$ must be true. The paragraph does not provide any other route that forces $B \vee A$ to hold independently.

Hence, from the paragraph alone, we do **not** know whether $(B \vee A)$ is actually true or false. The text neither confirms nor denies "it is a fact that either some circuits use batteries or most acid dissolves calcites."

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

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Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: The statement 'all rock iguanas live in a tropical dry forest ecosystem' can be considered false. Whenever it is true that it is not true that if tables are smalls, then if most families have a symbol that is somehow related, then pinworms look like tiny pieces of white thread, 'stratus clouds extend in flatter formations than cumulus ones' is true. It is a common misconception that stratus clouds extend in flatter formations than cumulus ones. It is a fact that either formal logic proceeds without meaning and without intentionality or anthropologists find ritualistic behavior. When formal logic proceeds without meaning and without intentionality is true, it follows that tables are smalls. On the condition that anthropologists find ritualistic behavior, it is definitely the case that tables are

smalls. One may reasonably assume that if the notion that 'if the notion that 'most families have a symbol that is somehow related' is untrue, then all rock iguanas live in a tropical dry forest ecosystem' is untrue, then either advertising is the marriage of analysis and imagination, of marketing professional and artist or muscles burn more calories than fat, plus a muscular body has a higher metabolism. Whenever it is true that the notion that 'if the notion that 'most families have a symbol that is somehow related' is untrue, then all rock iguanas live in a tropical dry forest ecosystem' is untrue, 'the claim that either advertising is the marriage of analysis and imagination, of marketing professional and artist or muscles burn more calories than fat, plus a muscular body has a higher metabolism has no merit' is true.

Statement: The statement 'pinworms look like tiny pieces of white thread' can be considered false.

Answer:



Let's break down the paragraph for any direct or indirect assertion about "pinworms look like tiny pieces of white thread" being true or false.

1. The paragraph references a conditional of the form:

"Whenever it is true that it is *not* true that 'if tables are smalls, then if most families have a symbol that is somehow related, then pinworms look like tiny pieces of white thread', 'stratus clouds extend in flatter formations than cumulus ones' is true."

This is a fairly convoluted statement but does not itself confirm or deny whether "pinworms look like tiny pieces of white thread" is **actually** correct or incorrect. It only discusses that if a certain **complex** antecedent (involving "tables are smalls" and "most families have a symbol...") is negated, then something about stratus clouds is triggered.

2. The paragraph also mentions that "it is a common misconception that stratus clouds extend in flatter formations." Yet we see no premise concluding "pinworms do *not* look like tiny pieces of white thread," nor do we see any premise confirming that they *do*.
3. Because there is no premise stating "pinworms look like tiny pieces of white thread is false" or "pinworms look like tiny pieces of white thread is true" in a definitive way, the paragraph neither supports nor contradicts the statement:

"The statement 'pinworms look like tiny pieces of white thread' can be considered false."

Based on the paragraph alone, we lack sufficient logical ground to conclude that claim. Therefore, the statement's truth value is:

UNCERTAIN



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Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats

is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: Provided that some papaya prevents hunger, we know that if marriage is a legal relationship and a social status understood everywhere, then north korean government takes steps, then the statement that states black spirituals are one of the best known and earliest forms of American music is false. Given that marriage is a legal relationship and a social status understood everywhere, it can be inferred that vagrants have (part) heads. Should it be the case that it is a common misconception that either some papaya prevents hunger or wind creates mechanical forces, it follows that some nematodes cause gastroenteritis. It is a common misconception that some nematodes cause gastroenteritis. If either education is the key to success of any community and of every economy or drug interactions are a major health problem, then if wind creates mechanical forces, then if marriage is a legal relationship and a social status understood everywhere, then north korean government takes steps, then the statement that states black spirituals are one of the best known and earliest forms of American music is false. We know that either education is the key to success of any community and of every economy or drug interactions

are a major health problem. When the statement that 'if vagrants have (part) heads, then north korean government takes steps' is incorrect is true, it follows that muscular atrophy can cause serious problems in a person 's life . It is not the case that muscular atrophy can cause serious problems in a person 's life .

Statement: It is the case that black spirituals are one of the best known and earliest forms of American music.

Answer:



Let's label the key proposition in question:

- B : "Black spirituals are one of the best known and earliest forms of American music."

From the paragraph, we see multiple conditionals that, **if** triggered, would lead to " B is false." For example:

"Provided that some papaya prevents hunger, we know that if (if marriage is a legal relationship ... then North Korean government takes steps), then the statement that states B is false."

Also:

"If either education is the key to success or drug interactions are a major health problem, **then** if wind creates mechanical forces, **then** if (marriage is a legal relationship ... then North Korean government takes steps), **then** B is false."

However, these conditionals depend on several other premises being **actually true** (e.g., "some papaya prevents hunger," "wind creates mechanical forces," "marriage is a legal relationship," etc.). The paragraph never confirms that all of these necessary antecedents hold simultaneously. Instead, it presents them as possibilities. Nothing in the paragraph **categorically** states that all these triggering conditions have been satisfied.

Therefore:

- We do **not** see a final premise stating "all these conditions are indeed true," which would force B to be false.
- We do **not** see any premise that directly asserts B is true.

Because the paragraph provides **conditionals** leading to " B is false" but never confirms those antecedents, it never definitively concludes B is false. Nor does it establish B to be true.

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
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You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: Either one or both of these statements are true: eggs have a richer colour in the yolk, are larger and full of flavor, or either water enters the soil rapidly when it is dry and cracked and very slow when it is moist or most vernal ponds hold water. The claim that eggs have a richer colour in the yolk, are larger and full of flavor has no merit. The claim that most buffalo feeds on aquatic plants does not correspond with reality. Assuming nymph feeds on prey, we know that sherbet is a frozen mixture of sweetened fruit juice and water. There is good reason to believe that either healthy people can donate blood as often as once every eight weeks or geese thrive in marsh. Assuming healthy people can donate blood as often as once every eight weeks, we know that either most buffalo feeds on aquatic plants or if water enters the soil rapidly when it is dry and cracked and very slow when it is moist, then sherbet is a frozen mixture of sweetened fruit juice and water. Should it be the case that geese thrive in marsh, it follows that either most buffalo feeds on aquatic plants or if water enters the soil rapidly when it is dry and cracked and very slow when it is moist,

then sherbet is a frozen mixture of sweetened fruit juice and water. It is not true that carbuncles are diseases. Once we know some people mistakenly believe that if the claim that if most vernal ponds hold water, then nymph feeds on prey does not reflect reality, then carbuncles are diseases, we also know that migratory birds have salt glands. The statement 'migratory birds have salt glands' can be considered false.

Statement: The claim that sherbet is a frozen mixture of sweetened fruit juice and water has no merit.

Answer:



Let's label the relevant propositions to keep track of the logic:

1. E : "Eggs have a richer color in the yolk, are larger, and full of flavor."
2. W : "Water enters the soil rapidly when it is dry and cracked and very slow when it is moist."
3. V : "Most vernal ponds hold water."
4. B : "Most buffalo feeds on aquatic plants."
5. N : "Nymph feeds on prey."
6. S : "Sherbet is a frozen mixture of sweetened fruit juice and water."
7. H : "Healthy people can donate blood as often as once every eight weeks."
8. G : "Geese thrive in marsh."

From the paragraph:

- "The claim that E (eggs have a richer color, etc.) has no merit." $\Rightarrow \neg E$.
- "The claim that B (most buffalo feeds on aquatic plants) does not correspond with reality." $\Rightarrow \neg B$.
- "Assuming N , we know S ." $\Rightarrow N \implies S$.

We also see more conditionals involving H or G leading to "either B or $(W \implies S)$." But because $\neg B$ is given, the only way those or-conditions can hold is if $W \implies S$. Yet the paragraph never confirms whether W (water entering soil quickly) actually holds.

Similarly, the paragraph never confirms or denies N . It only says that *if* N , then S . But we lack a premise stating N is definitely true.

Hence, no chain of reasoning in the paragraph establishes that S ("Sherbet is a frozen mixture...") must be false; nor does anything unconditionally establish it is true. The paragraph only gives conditionals—none of which are definitively triggered. Consequently, we have:

- No contradiction of S .
- No forced conclusion that S must hold.

Therefore, the statement

"The claim that sherbet is a frozen mixture of sweetened fruit juice and water has **no** merit"

is neither proven nor refuted by the given premises. In other words, the paragraph does **not** support or contradict that statement.

UNCERTAIN



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Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets

are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: Given that the claim that children are especially vulnerable because their lungs are still developing is false, it can be inferred that nutrition is the most important issue in the treatment of chylothorax. Whenever it is true that most sharks grow brains, 'if the claim that children are especially vulnerable because their lungs are still developing is false, then enemies will have impact'

is true. The statement 'most sharks grow brains' can be considered true. Given that those that suggest either people of colour is a race or if enemies will have impact, then the notion that 'nutrition is the most important issue in the treatment of chylothorax' is untrue are wrong, it can be inferred that the statement that 'many processes produce clusters of entities, generated by a small set of self-organizing processes' is incorrect. Either either red cells pick up oxygen in the lungs or techniques include use or epidemic diseases occur everywhere where there have been radiation accidents. When either red cells pick up oxygen in the lungs or techniques include use is true, it follows that the statement that 'people of colour is a race' is incorrect. Should it be the case that epidemic diseases occur everywhere where there have been radiation accidents, it follows that the statement that 'people of colour is a race' is incorrect. One may reasonably assume that if geraniums lose leaves, then if those that suggest either people of colour is a race or if enemies will have impact, then the notion that 'nutrition is the most important issue in the treatment of chylothorax' is untrue are wrong, then many processes produce clusters of entities, generated by a small set of self-organizing processes. It is a simple truth that geraniums lose leaves.

Statement: Many children have some form of renal disease.

Answer:



Let's check whether the paragraph contains any premise or logical chain that would affirm or deny the statement:

"Many children have some form of renal disease."

The paragraph discusses:

- A claim about children's lungs still developing (and concluding that this claim is false).
- Nutrition as the most important issue in treating chylothorax.
- Most sharks growing brains.
- Enemies having impact.
- Self-organizing processes.
- Geraniums losing leaves.
- People of color is a race (stated to be incorrect).

Nowhere in the paragraph is there any mention or inference about children having—or not having—renal disease. Consequently, the statement in question,

"Many children have some form of renal disease,"

is neither supported nor contradicted by the text. Therefore, based on the paragraph's premises alone, the truth value of the statement is:

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: It is a common misconception that cool stars are red or redish-orange in color. Either mexican coffees are wet-processed or anger is a powerful tool for social change on a personal and societal level. If anger is a powerful tool for social change on a personal and societal level, then if water shortages pose problems, then cool stars are red or redish-orange in color. Should it be the case that spectral lines are produced by transitions of electrons within atoms or ions, it follows that either steamrollers have (part) sections or if mexican coffees are wet-processed, then if water shortages pose problems, then cool stars are red or redish-orange in color. It is a fact that either bats can hear from thirty thousand to seventy thousand vibrations per second or the statement 'steamrollers have (part) sections' can be considered false. It is not the case that bats can hear from thirty thousand to seventy thousand vibrations per second. One may reasonably assume that if the notion that 'spectral lines are produced by transitions of electrons within atoms or ions' is untrue, then the statement that states cVs can also exhibit outbursts on the time scale of weeks to months

is false. When the claim that if the notion that 'spectral lines are produced by transitions of electrons within atoms or ions' is untrue, then cVs can also exhibit outbursts on the time scale of weeks to months is false is true, it follows that either exercise physiology demonstrates the extremes of physiological stress or more children die from preventable injury than from all childhood diseases combined. The statement 'either exercise physiology demonstrates the extremes of physiological stress or more children die from preventable injury than from all childhood diseases combined' can be considered false.

Statement: The notion that 'water shortages pose problems' is untrue.

Answer:



Let's look at what the paragraph says regarding "water shortages pose problems." The paragraph includes a conditional:

"If anger is a powerful tool for social change on a personal and societal level, then if water shortages pose problems, then cool stars are red or redish-orange in color."

and another conditional involving "if Mexican coffees are wet-processed, then if water shortages pose problems, then cool stars are red or redish-orange in color." However, **nowhere** does the paragraph confirm or deny that "water shortages pose problems" is actually true or false. These are all conditional statements whose antecedents may or may not hold.

Thus, the paragraph does not establish that water shortages *do* pose problems, nor does it claim they *do not*. It presents scenarios where "if water shortages pose problems, then something else follows," but never resolves whether that antecedent is correct in the first place.

Hence, the statement

"The notion that 'water shortages pose problems' is untrue"

is neither supported nor contradicted by the paragraph. We can conclude:

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use

tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: Provided that the claim that evolution is a belief system that is imposed on the facts does not correspond with reality, we know that boilers are vessels. It is not the case that either porpoises have triangular heads or fuel cells can help our economy grow while improving the condition of the planet. Should it be the case that the statement, if the claim that if libertarians say that markets give the right incentives, along with liability laws, then some people mistakenly believe that boilers are vessels has no merit, then either porpoises have triangular heads or fuel cells can help our economy grow while improving the condition of the planet, does not hold, it follows that either reinforcement is the maintenance of community norms or light becomes the conscious medium of our expression as well as the source of our energy. Provided that the statement, if the claim that if libertarians say that markets give the right incentives, along with liability laws, then some people mistakenly believe that boilers are vessels has no merit, then either porpoises have triangular heads or fuel cells can help our economy grow while improving the condition of the planet, does not hold, we know that it is a common misconception that either reinforcement is the maintenance of community norms or light becomes the conscious medium of our expression as well as the source of our energy. We know that at least one of two things is true: if heavy vehicles are a major contributor to elevated noise levels, then tortricid moths are among the most significant pests of forest trees and fruit orchards worldwide, or obesity is associated with a large number of very important diseases. One may reasonably assume that if heavy vehicles are a major contributor to elevated noise levels, then tortricid moths are among the most significant pests of forest trees and fruit orchards worldwide, then pecan growers start harvesting after early freezes knock leaves off the trees. Should it be the case that obesity is associated with a large number of

very important diseases, it follows that libertarians say that markets give the right incentives, along with liability laws. When pecan growers start harvesting after early freezes knock leaves off the trees is true, it follows that hunger is the supreme disease. So long as pecan growers start harvesting after early freezes knock leaves off the trees, 'the statement that states hunger is the supreme disease is false' is true.

Statement: We know that the claim that evolution is a belief system that is imposed on the facts is false.

Answer:



Let's look closely at the paragraph. We see this relevant conditional:

"Provided that the claim that evolution is a belief system that is imposed on the facts does not correspond with reality, we know that boilers are vessels."

This says essentially:

$(\neg \text{"evolution is a belief system imposed on the facts"}) \implies \text{"boilers are vessels."}$

But the paragraph never **confirms** that the claim about evolution is indeed false; it only states a conditional: if that evolution-claim does not correspond with reality, then something else ("*boilers* are vessels") follows. No premise or conclusion in the paragraph states outright that "the claim about evolution is actually false." So we have no definitive statement forcing that antecedent to be true.

Hence, the paragraph does **not** establish or contradict the statement

"We know that the claim that evolution is a belief system that is imposed on the facts is false."

Because the text neither proves nor refutes it, the conclusion must be:

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
- Constructive Dilemma
- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement

- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that

it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.
 This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.
 Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: When light is part of many of our spiritual traditions is true, it follows that some people mistakenly believe that higher education is education. Once we know smoking is particularly hazardous to the female reproductive tract, we also know that some people mistakenly believe that higher education is education. So long as complexity is a tax burden, 'either light is part of many of our spiritual traditions or smoking is particularly hazardous to the female reproductive tract' is true. Once we know gender describes characteristics of men and women which are determined by society, we also know that complexity is a tax burden. The statement 'gastropod isa mollusc' can be considered false. One may reasonably assume that if diets trigger effects, then if ground water reappears at the earth's surface as springs, seeps in wells, then malignant hyperthermia is characterized by an extremely elevated metabolism within the muscle cell. Once we know if ground water reappears at the earth's surface as springs, seeps in wells, then malignant hyperthermia is characterized by an extremely elevated metabolism within the muscle cell, we also know that complexity is a tax burden. Whenever it is true that some ice reduces friction, 'gastropod isa mollusc' is true. It is a fact that either some guitar players use a slide to emulate the sound of a person cryin' or computer viruses can have a devastating effect on an organisation. So long as some guitar players use a slide to emulate the sound of a person cryin', 'if it is a common misconception that either diets trigger effects or gender describes characteristics of men and women which are determined by society, then some ice reduces friction' is true. When computer viruses can have a devastating effect on an organisation is true, it follows that if it is a common misconception that either diets trigger effects or gender describes characteristics of men and women which are determined by society, then some ice reduces friction.

Statement: The statement, higher education refers to courses that are higher than 'A' level, does not

hold.

Answer:



Let's look at how the paragraph references "higher education":

- It mentions that "some people mistakenly believe that higher education is education."
- There is no mention of "higher education refers to courses that are higher than 'A' level" nor any premise that would prove or disprove that particular definition.

Because the paragraph focuses on a misconception that "higher education is education," it does not address whether higher education specifically "refers to courses that are higher than 'A' level." No logical chain in the paragraph shows that this statement is either correct or incorrect. Consequently, the text neither supports nor contradicts the claim:

"The statement, higher education refers to courses that are higher than 'A' level, does not hold."

Hence, the final conclusion is:

UNCERTAIN



You are given a paragraph of facts/premises, followed by a statement. Perform logical reasoning with propositional logic on the paragraph to determine the truth value of the statement.

Here is the list of argument forms:

- Modus Ponens
- Modus Tollens
- Hypothetical Syllogism
- Disjunctive Syllogism
- Reductio ad absurdum
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- Disjunction Elimination

You must answer with either one of the 3 options:

- TRUE: When the premises in the paragraph lead to the statement
- FALSE: When the premises in the paragraph directly contradict the statement
- UNCERTAIN: When the premises in the paragraph neither support nor contradict the statement

Do not use your prior knowledge; your answer must be solely determined by the information within the paragraph. Assume that all premises in the paragraph are true.

Question: Is the statement true, false, or uncertain?

Paragraph: It is a fact that either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers. It is not the case that pampas grass is a

large bunchgrass from South America.

Statement: It is rational to agree that gifted children are usually markedly different from their peers.

Answer:

Premise 1: Either pampas grass is a large bunchgrass from South America or gifted children are usually markedly different from their peers.

Premise 2: It is not the case that pampas grass is a large bunchgrass from South America.

Using disjunctive syllogism with premises 1 and 2, we conclude that gifted children are usually markedly different from their peers.

Therefore, the final answer is TRUE.

Paragraph: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power. Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways. We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Statement: Many people experience weight loss by increasing daily water intake only.

Answer:

Premise 1: We know that either outdoor pet bites Most bites from pets are from dogs or cats or if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 2: We know that the claim that outdoor pet bites Most bites from pets are from dogs or cats is false.

Using disjunctive syllogism with premises 1 and 2, we form the subconclusion that if power is transient and no human being can be the repository of absolute power, then many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Premise 3: We know that at least one of two things is true: an oriental bittersweet is a vine, or power is transient and no human being can be the repository of absolute power.

Premise 4: Given that an oriental bittersweet is a vine, it can be inferred that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

Using disjunction elimination with premises 1 and 2 and the above subconclusion, we conclude that it is reasonable to believe that many people use tobacco in one form or another in Canada, and it affects our lives in many ways.

This argument neither supports nor contradicts the statement many people experience weight loss by increasing daily water intake only.

Therefore, the final answer is UNCERTAIN.

Paragraph: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false. If some snakes are located on regions, then most dolphins have year lifespans. The claim that most dolphins

have year lifespans does not reflect reality.

Statement: The statement that states plants range from dwarfs to mature specimens is right.

Answer:

Premise 1: If some snakes are located on regions, then most dolphins have year lifespans.

Premise 2: The claim that most dolphins have year lifespans does not reflect reality.

Using modus tollens with premise 1 and 2, we form the subconclusion that it is not true that some snakes are located on regions.

Premise 3: We know that at least one of two things is true: some snakes are located on regions, or the statement 'plants range from dwarfs to mature specimens' can be considered false.

Using disjunctive syllogism with premise 3 and the above subconclusion, we conclude that the statement 'plants range from dwarfs to mature specimens' can be considered false.

Therefore, the final answer is FALSE.

Paragraph: Whenever it is true that all cells require oxygen to function, 'if the statement that states either if grandchildren have (part) plasma membranes, then names are bobs or if stones seem to be more common in hot climates and during summer months, then atoms absorb light only at particular energies is false, then prophets are the last word throughout the Bible' is true. Those that suggest all cells require oxygen to function are right. Assuming prophets are the last word throughout the Bible, we know that few pregnancies result from incestuous relationships. Assuming prophets are the last word throughout the Bible, we know that the statement that states few pregnancies result from incestuous relationships is false. When if grandchildren have (part) plasma membranes, then names are bobs is true, it follows that many spore pustules develop in the decaying leaves and stems. One may reasonably assume that if many spore pustules develop in the decaying leaves and stems, then deer have requirements. So long as retroviruses use reverse transcription to make copies of themselves, 'the statement, deer have requirements, does not hold' is true. retroviruses use reverse transcription to make copies of themselves.

Statement: Provided that stones seem to be more common in hot climates and during summer months, we know that atoms absorb light only at particular energies

Answer:



Let's parse the last paragraph carefully for any premises that might confirm or deny the statement:

"Provided that stones seem to be more common in hot climates and during summer months, we know that atoms absorb light only at particular energies."

In the paragraph, we do see a reference to:

"...either **if grandchildren have (part) plasma membranes, then names are bobs** or **if stones seem to be more common in hot climates and during summer months, then atoms absorb light only at particular energies** is false, then prophets are the last word throughout the Bible."

But this mention is a conditional about whether that entire statement is “false” triggering something about prophets. The paragraph itself never confirms that “if stones seem to be more common in hot climates, then atoms absorb light only at particular energies” actually holds. It only sets up a scenario in which *if* that statement is false, some other consequence follows. Nothing asserts outright that the statement is *true*.

Therefore, the paragraph does not establish or contradict

“Provided that stones seem to be more common in hot climates and during summer months, we know that atoms absorb light only at particular energies.”

No premise definitively says that condition is valid or invalid. Hence, based on the paragraph alone:

UNCERTAIN
