Argument Translations 12 Answer Key

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Argument Translations 1

Key

- D: National elections deteriorate into TV popularity contests.
- S: Smooth-talking morons will get elected.

$D \to S$

$\therefore \neg D \to \neg S$

Invalid

Key

- B: Brazil has a huge foreign debt.
- A: Argentina has a huge foreign debt.

B

$\therefore B \lor A$

Valid

Key

- C: Fossil fuel combustion coninues at its present rate.
- G: Greenhouse effect will occur.
- W: World temperatures will rise.

$C \to G$

$G \to W$

$\therefore C \to W$

Valid

Key

- R: There are dried-up riverbeds on Mars.
- W: Water once flowed on the Martian surface.

$R \to W$

R

$\therefore W$

Valid

Key

- R: High school graduates are deficient in reading.
- C: They will be able to compete in the modern world.
- W: High school graduates are deficient in writing.

$R \to \neg C$

$W \to \neg C$

$\therefore R \to W$

Invalid

Key

- D: The disparity between rich and poor is increasing.
- A: Political control over economic equality will be achieved.
- R: The economic system is restructured along socialist lines.

D

$\therefore A \to (R \to A)$

Valid

Key

- P: Einstein won the Nobel Prize for explaining photoelectric effect.
- R: Einstein won the Nobel Prize for the special theory of relativity.

$P \lor R$

P

$\therefore \neg R$

Invalid

Key

- D: Microchips are made from diamond wafers.
- H: Computers will generate less heat.
- S: Synthetic diamonds will be used for jewelry.

$D \to H$

$\neg H \land D$

$\therefore S$

Valid

Key

- A: USS Arizona was sunk in the attack on Pearl Harbor.
- M: USS Missouri was sunk in the attack on Pearl Harbor.

$\neg A \lor \neg M$

$\therefore \neg(A \lor M)$

Invalid

Key

- R: Racial quotas are adopted for promoting employees.

- Q: Qualified employees will be passed over.
- P: Prior discrimination will go unaddressed.

$R \to Q$

$\neg R \to P$

$R \vee \neg R$

$\therefore Q \vee P$

Valid

Argument Translations 2

Key

- G: Greece strengthens its democratic institutions.
- H: Hungary will pursue a more independent policy.
- I: The Italian government will feel less threatened.

$G \to H$

$G \to I$

$\therefore H \to I$

Invalid

Key

- J: Japan continues to increase the export of automobiles.
- K: Korea will suffer economic decline.
- L: Laos will suffer economic decline.

$J \to (K \lor L)$

$\neg K$

$\therefore J \to L$

Valid

- M: Montana suffers a severe drought
- N: Nevada has its normal light rainfall
- O: Oregon's water supply will be greatly reduced.

$M \to (N \to O)$

N

$\therefore O \to M$

Invalid

Key

- E: Equality of opportunity is to be achieved
- D: Those people previously disadvantaged should now be given special opportunities.
- P: Some people receive preferential treatment.

$E \to D$

$D \to P$

$P \to \neg E$

$\therefore \neg E$

- Invalid

Key

- T: Terrorists' demands are met.
- L: Lawlessness will be rewarded.
- I: Innocent hostages will be murdered.

$T \to L$

$\neg T \rightarrow I$

$\therefore L \lor I$

Valid

Key

- R: People are entirely rational.
- P: All of a person's actions can be predicted in advance.
- D: The universe is essentially deterministic.

$R \rightarrow (P \lor D)$

$\neg P$

$\therefore \neg D \rightarrow \neg R$

Valid

Key

- O: Oil consumption continues to grow.
- I: Oil imports will increase.
- D: Domestic oil reserves will be depleted.
- N: The nation eventually will go bankrupt.

$O \rightarrow (I \lor D)$

$(I \land D) \rightarrow N$

$\therefore O \rightarrow N$

Valid

Key

- O: Oil consumption continues to grow.
- I: Oil imports will increase.
- D: Domestic oil reserves will be depleted.
- N: The nation will soon be bankrupt.

$O \rightarrow (I \land D)$

$(I \lor D) \rightarrow N$

$\therefore O \rightarrow N$

Invalid

Page 2

$F \lor A$

$\therefore A$

- Invalid

$R \rightarrow A$

$\therefore R \rightarrow (A \lor W)$

- Valid

$F \rightarrow R$

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$R \rightarrow \neg E$

F

$\therefore \neg E$

- Valid

$M \rightarrow \neg R$

$R \vee V$

M

$\therefore V$

- Valid

$U \rightarrow C$

$L \vee U$

$\neg L$

$\therefore C$

- Valid

$C \rightarrow M$

$M \rightarrow P$

$P \rightarrow I$

$\therefore C \rightarrow I$

- Valid

$(G \wedge S) \rightarrow D$

$(S \rightarrow D) \rightarrow P$

G

$\therefore P$

- Valid

$G \rightarrow F$

$F \rightarrow \neg P$

P

$\therefore \neg G$

- Valid

$F \rightarrow W$

$\therefore (F \wedge S) \rightarrow W$

- Invalid