

Appendix H – Typical Syllogisms

This is a syllogistic reasoning task, which presents you with an argument (two premises and a conclusion) and asks you to decide whether the conclusion is logically valid or invalid. The idea is to accept that all the statements are true and then decide if the conclusion follows logically.

1. All calculators are machines.

All computers are calculators.

incongruent:
invalid-believable

Therefore, some machines are not computers.

note: indeterminately invalid

Valid Invalid

2. No fruits are fungi.

All mushrooms are fungi.

congruent:
invalid-unbelievable

Therefore, some mushrooms are fruits.

note: determinately invalid

Valid Invalid

3. All African countries are warm

Spain is warm

congruent:
invalid-unbelievable

Therefore, Spain is an African country

note: indeterminately invalid

Valid Invalid

4. No harmful substance is natural.

All poisons are natural.

Therefore, no poisons are harmful.

incongruent:
valid-unbelievable

Valid Invalid

5. All flying birds have feathers.

No people have feathers.

congruent:
invalid-unbelievable

Therefore, some people are flying birds.

Valid Invalid

6. All vehicles have wheels

A boat is a vehicle

Therefore, a boat has wheels

TRANSITIVITY,
LIKE 8

incongruent:
valid-unbelievable

Valid Invalid

7. All things with an engine need oil

Cars need oil

incongruent:
invalid-believable

Therefore, cars have engines

note: indeterminately invalid

Valid Invalid

8. All things that are smoked are bad for your health

Cigarettes are smoked

TRANSITIVITY,
LIKE 6

Therefore, cigarettes are bad for your health

congruent:
valid-believable

Valid Invalid