

## 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. 5. All flying birds have feathers.

No people have feathers.

Therefore, some people are flying birds.

congruent:  
invalid-unbelievable

☐ 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