

Logical and Not So Logical Syllogisms

Study each of the following syllogisms. Decide whether they are valid or invalid.

In a “valid” argument the conclusion logically follows from the premises. The conclusion need not be true but if the premises are true then (in a valid argument) the conclusion must be true. In a valid argument the validity concerns the argument structure, not its content.

In an “invalid” argument there is no guarantee that the conclusion is true if the premises are true. Indeed, the conclusion may be true but does not follow from the premises. Truth and validity are two distinct concepts in logic.

(one)

All smart people take Senior Seminar.
You take Senior Seminar.
Therefore you must be smart.

(seven)

No school day is a good day.
Today is a school day.
Therefore today is not a good day.

(two)

All electrons are negative.
Particle X is an electron.
Therefore X is negative.

(eight)

No school day is a good day.
Today is not a good day.
Therefore today is a school day.

(three)

Not all that is yellow is gold.
This stone is yellow.
Therefore this stone is not gold.

(nine)

If it rains I'll get wet on the school picnic.
I indeed got wet on the school picnic.
Therefore it must have rained during the school picnic.

(four)

Some dogs bark very loud.
My dog barks very loud.
Therefore, my dog is some dog .

(ten)

All men are mortal.
George died so George must have been mortal.
Therefore George must have been a man.

(five)

No sane person would study physics.
You do not study physics.
Therefore you must be a sane person.

(eleven)

All invalid arguments break at least one rule.
This argument breaks one rule.
Therefore this argument is invalid.

(six)

Some people are bald.
Only men go bald.
Therefore some men are bald.