

Name:

Section:



Date:

Score:

Valid



The word "valid" is an adjective that means something is legally or factually sound, or logically cogent. In other words, if something is valid, it is considered to be well-founded, reasonable, or acceptable according to established criteria or standards.

**You need to decide whether the following two arguments are valid or invalid.
Be sure you give an explanation for each.**

1) All humans are mammals.

Sarah is a human.

Therefore, Sarah is a mammal.

2) All cats have fur.

Larry has fur.

Therefore, Larry is a cat.

Answers:

Argument #1: All humans are mammals. Sarah is a human. Therefore, Sarah is a mammal.

Explanation:

The first premise states a general fact: "All humans are mammals." This premise is true according to biological classification, as humans belong to the mammalian class.

The second premise provides specific information: "Sarah is a human." This premise is also true, as it states a fact about a particular individual.

The conclusion drawn from these premises, "Therefore, Sarah is a mammal," logically follows. Since all humans belong to the category of mammals, and Sarah is a human, it is logically valid to conclude that Sarah is also a mammal.

In this example, the argument is valid because the conclusion logically flows from the premises. It follows the structure of a valid categorical syllogism, where the conclusion is necessarily true if the premises are true.

Argument #2: All cats have fur. Fluffy has fur. Therefore, Fluffy is a cat.

Explanation:

The first premise states a general fact: "All cats have fur." This premise is true in many cases, as most cats indeed have fur.

The second premise provides specific information: "Fluffy has fur." This premise is also true, as it states a fact about a particular individual.

However, the conclusion drawn from these premises, "Therefore, Fluffy is a cat," is not logically valid. Just because Fluffy has fur does not necessarily mean that Fluffy is a cat. Fluffy could be a dog, a rabbit, or any other animal that has fur.

In this example, the argument is invalid because the conclusion does not logically follow from the premises. The presence of fur is not exclusive to cats, so the conclusion cannot be logically inferred based solely on that information.