

Week 1: An Introduction to Arguments

[P1] There is a bridge in your town that hundreds of cars drive over every day.
 [P2] Engineers who work for the town regularly inspect the bridge.
 [P3] Every once in a while, repairs are made to the bridge.
 [C] This bridge will be safe to drive over tomorrow.

[P1] In high school, Stan was a member of the chess club, the audio-visual club, and the juggling club.
 [C] Stan is smart.

[P1] Only students who are members of the juggling club can learn how to “breathe fire.”
 [P2] Mary isn’t a member of the juggling club.
 [C] Mary can’t learn how to “breathe fire.”

I have eaten bread almost every day of my life, and every time I have done so it has provided nourishment. So, the next time I eat bread, it will provide nourishment.

The night of Mozart’s death was dark and stormy; at the funeral, too, it began to rage and storm. Rain and snow fell at the same time, as if Nature wanted to shew her anger.

Bats are the only mammals that can fly. Therefore, Bartok cannot fly because, although he is a mammal, he is not a bat.

[P1] Seoul, South Korea is larger than Mexico City.
 [P2] Mexico City is larger than New York City.
 [C] Therefore, Seoul is larger than New York City.

[P1] It is either warm outside or cold outside.
 [P2] It is not cold outside.
 [C] Therefore, it is warm outside.

[P1] Kevin Hart is a warm-blooded animal.
 [P2] All goats are warm-blooded animals.
 [C] Therefore, Kevin Hart is a goat.

[P1] Kevin Hart is a warm-blooded animal.
 [P2] All warm-blooded animals are goats.
 [C] Therefore, Kevin Hart is a goat.

[P1] If Peter went to the police, then Margaret was arrested today.
 [P2] Margaret was arrested today.
 [C] Therefore, he went to the police.

[P1] If Peter went to the police, then Margaret was arrested today.
 [P2] Peter went to the police.
 [C] Therefore, Margaret was arrested today.

[P1] Peter is a human 12-year-old, and he can breathe under water (without any artificial aids).
 [P2] Both of Peter’s parents can breathe underwater (without ...).
 [P3] All of Peter’s aunts and uncles can breathe underwater (wit...).
 [P4] All of Peter’s grandparents can breathe underwater (witho...).
 [P5] Peter’s older sister can breathe under water (without any ...).
 [C] Therefore, Peter’s younger brother will be able to breathe under water (without any artificial aids).

[P1] If I went to a store that sells milk, then I got milk.
 [P2] I went to a store that sells milk.
 [C] Therefore, I got milk.

[P1] If I went to a store that sells milk, then I got milk.
 [P2] I got milk.
 [C] Therefore, I went to a store that sells milk.

[P1] George H.W. Bush’s oldest son is George W. Bush.
 [P2] George W. Bush was the President.
 [C] George H.W. Bush’s oldest son was the President.

[P1] Gerald Ford’s oldest son is George W. Bush.
 [P2] George W. Bush was the President.
 [C] Gerald Ford’s oldest son was the President.

[P1] In every U.S. Presidential election since 1852, either the Democratic candidate or the Republican candidate has won.
 [C] The Democratic candidate or the Republican candidate will win the next U.S. Presidential election.

[P1] The Jones Memorial Bridge is regularly inspected by qualified engineers.
 [P2] Cars and trucks have been driving over it for many years.
 [C] Therefore, it will be safe to drive over the Jones Memorial Bridge tomorrow.

[P1] Mary is a cold-blooded animal.
 [P2] All cold-blooded animals are lizards.
 [C] Therefore, Mary is a lizard.

[P1] Kevin Hart is a man.
 [P2] All men are warm blooded.
 [C] Therefore, Kevin Hart is warm blooded.

[P1] From 1817 to 1821, Natchez was the capital of Mississippi.
 [P2] In 1821 and 1822, Columbia was the capital of Mississippi.
 [P3] From 1822 until today, Jackson has been the capital of Mississippi.
 [C] Next year, Jackson will be the capital of Mississippi.

For 1 - 6, determine if the argument is deductively valid or deductively invalid.

- (1) [P1] Kim is going to try out for the basketball team or she is going to try out for the soccer team.
[P2] She isn't going to try out for the basketball team.
[C] Therefore, she is going to try out for the soccer team.
- (2) [P1] If Sue drove to Ohio, then she is not at work today.
[P2] Sue is not at work today.
[C] Therefore, Sue drove to Ohio.
- (3) [P1] The Sears Tower is taller than the Empire State building.
[P2] The Empire State building is taller than the Chrysler Building.
[C] Therefore, the Sears tower is taller than the Chrysler Building.
- (4) [P1] If Sue drove to Ohio, then she is not at work today.
[P2] Sue is at work today.
[C] Therefore, it is not the case that Sue drove to Ohio.
- (5) [P1] Ninety-six percent of the marbles in the jar are red.
[P2] One marble is about to be selected, at random, from this jar.
[C] Therefore, that marble will be red.
- (6) [P1] All human beings have or had a mother.
[P2] Zeus is a god.
[P3] No being can be a god and a human being.
[C] Therefore, Zeus does not have a mother.

(7) What's the difference between valid and sound? _____

(8) Which is correct? 'Every valid argument is sound' or 'Every sound argument is valid'? _____

(9) What's the difference between inductively strong and reliable? _____

(10) Which is correct? 'Every inductively strong argument is reliable' or 'Every reliable argument is inductively strong'?

(11) Can an argument be invalid and reliable? _____