## Validity and Soundness Handout

Directions: Determine the validity and soundness of the arguments below.
Steps:
(1) Start by just assuming that the premises are true. Then, ask yourself:
"Would the truth of these premises guarantee the truth of this conclusion?"
If they do, the argument is valid -- if they don't, the argument is invalid.
(2) Next, if the argument is valid, check the soundness by determining
whether or not the premises _really_ are true. (For some arguments you may
be uncertain about the truth or falsity of the premises. In such cases you
can't determine the soundness of the argument.)

P1: Every painting ever made is in The Matrix.
P2: "La Persistencia de la Memoria" is a painting by Salvador Dalí.
Therefore "La Persistencia de la Memoria" is in The Matrix.

P1: If Neo is The One, then he is destined to fall in love with Trinity.
P2: Neo is The One.
Therefore Neo is destined to fall in love with Trinity.

P1: All agents are programs.
P2: Some programs are not agents.
Therefore some agents are not programs.

P1: All the humans in The Matrix Trilogy are either pod-born or
natural-born.
P2: Morpheus is a human in The Matrix Trilogy.
Therefore Morpheus is either pod-born or natural-born.

P1: Some programs are mean spirited.
P2: All agents are mean spirited.
Therefore some agents are programs.

P1: If Neo is The One, then Cypher could not have killed him.
P2: Cypher could not have killed Neo.
Therefore Neo is The One.

P1: If Tank took the red pill, he knows Morpheus.
P2: Tank knows Morpheus.

Therefore Tank took the red pill.

P1: All the sentinels carry weapons.
P2: Squiddy is a sentinel.
Therefore Squiddy carries weapons.

P1: All sentient programs like The Oracle's cookies.
P2: The Oracle is a sentient program.
Therefore The Oracle likes her own cookies.

Make the arguments below valid by adding the necessary conclusion.

P1: If you take the red pill, you will free your mind.
P2: Neo took the red pill.
Therefore...

P1: Either Neo is The One or he is a ham sandwich.
P2: Neo is not The One.
Therefore...

P1: You are in The Matrix only if Professor García came to class.
P2: Professor García came to class.
Therefore...

P1: Some agents like humans.
P2: Some humans like agents.
Therefore....

Turn the "argument" below into a valid argument by adding the missing premise or assumptions. (Hint: It should be a Modus Ponens.)

*We must be in the Matrix, because I just had déjà vu.*

P1:
P2: _____
Therefore, we must be in the Matrix.