A) Determine whether the following arguments are valid or invalid. If valid, determine whether the argument is sound or unsound and whether it is an instance of *modus ponens* or *modus tollens*. If invalid, determine which kind of fallacy it is, that is, whether it is the fallacy of affirming the consequent or the fallacy of denying the antecedent.

1. If the moon is made out of cheese, then birds don't fly.

 The moon is made out of cheese.

∴ Birds don't fly.

2. If it rains, then the floor gets wet.

 The floor is not wet.

∴ It doesn't rain.

3. If a thing is a circle, then it's not a square.

 A thing is not a square.

∴ A thing is a circle.

4. If I had Bill Gates' money, then I'd be rich.

 I don't have Bill Gates' money.

∴ I am not rich.

B) Sometimes philosophers give arguments that contain *implicit premises*. An implicit premise is a claim upon which the validity of the argument depends but that is not explicitly expressed. A philosopher might rely on an implicit premise either intentionally or non-intentionally. When we reconstruct an argument, we have to make sure we state all premises upon which the validity of the argument depends, including the premises that are implicit in the argument as originally stated.
Give the implicit premise of the following arguments:

5. If California is in the US, then I've already been in the US.

∴ I've already been in the US.

6. If English is my mother language, then I don't make English mistakes.

∴ English is not my mother language.

ℂ) Come up with doubt-makers, if there are any, for the following propositions. Given that for Descartes someone knows a proposition *P* only if she can rule out doubt-makers for *P*, is it possible to know any of those propositions?

7. This is a zebra.

8. The Earth has 4.54 billion years.

9. Two plus two equals 4.

10. A ball is either entirely red or not red at any specific time.

11. The walls of my bedroom are yellow.

12. (Suppose that I am hallucinating and my hallucination is of a pink elephant.) I am seeing a pink elephant.