1. Consider the following translation key:

p: Human beings will arrive to Mars.
q: Human beings build a ship capable of interplanetary flight.

   Now, say whether the following statements are true or false:

   (a) '$p \rightarrow q$' is the correct translation of 'Human beings will arrive to Mars only if human beings build a ship capable of interplanetary flight.'

   (b) '$p \rightarrow q$' is the correct translation of 'If human beings build a ship capable of interplanetary flight, then human beings will arrive to Mars.'

   (c) '$p \rightarrow \neg q$' is the correct translation of 'Human beings will arrive to Mars unless human beings build a ship capable of interplanetary flight.'

2. Which steps should I follow in order to translate an argument into propositional logic and determine whether it is valid?

3. Translate the following arguments into propositional logic and determine whether they are valid:

   (a) If God is all powerful, then God can make the number 5 even. But no human can make the number 5 even, and even if no human can make the number 5 even, God can make the number 5 even. Therefore, God is all powerful.

   (b) I see a stopped clock that says '2pm' at 2pm. If I see a stopped clock that says '2pm' at 2pm, then I have a justified belief that it is 2pm. If I see a stopped clock that says '2pm' at 2pm, it is 2pm. If I have a justified belief that it is 2pm and it is 2pm, then

I know that it is 2pm. In conclusion, I see a stopped clock that says '2pm' at 2pm only if I know that it is 2pm.

(c) Harry Potter exists unless I can truthfully say 'Harry Potter does not exist'. But if I can truthfully say 'Harry Potter does not exist', then I can say of an object that it has the property of not existing. And I cannot say of an object that it has the property of not existing. Therefore, Harry Potter exists.