Your Name Here:

A **physical copy** of this quiz must be turned in to me at the **start of class** on **9/19**.

Question 1 (4 pts):

Compute the truth table for the following sentence of PL.

P	Q	(	P	⊃	Q	)	≡	¬	(	P	∧	Q	)
T	T												
T	F												
F	T												
F	F												

Is the above sentence a tautology [ ], a contradiction [ ], or a contingency [ ]?

Question 2 (10 pts):

Consider the following argument:

1. (A ⊃ B) ∨ (B ⊃ A)
2. ¬(A ≡ B)
3. ¬A
4. ∴ B

A	B	(A ⊃ B) ∨ (B ⊃ A)	¬ (A ≡ B)	¬ A	∴ B
T	T				
T	F				
F	T				
F	F				

Compute the truth tables for each of the premises and the conclusion.

Is the argument valid? [ ] Yes [ ] No

If not, which interpretation or interpretations are counterexamples?

Turn the page, there are more questions on the back!

Question 3 (10 pts):

Consider the following argument:

1. (A ⊃ B)
2. (B ≡ X)
3. X
4. ∴ A

A	B	X	(A ⊃ B)	(B ≡ X)	X	∴ A
T	T	T				
T	T	F				
T	F	T				
T	F	F				
F	T	T				
F	T	F				
F	F	T				
F	F	F				

Compute truth tables for each of the premises and the conclusion.

Is the argument valid? [ ] Yes [ ] No

If not, which interpretation or interpretations are counterexamples?