

Philosophy 57 — Quiz # 7

(solutions posted 05/13/03)

1 Classifying PL Sentences

Instructions. For each of the following PL statements, classify them as logically true, logically false, or contingent by circling the appropriate description under each statement (**circle only one description per statement**). Use the provided template (to the right of each statement) to report your truth-table calculations (see bottom of page for reference).

1. $(A \supset B) \vee (B \supset A)$

A	B	$(A \supset B)$			\vee	$(B \supset A)$		
T	T	T	T	T	T	T	T	T
T	F	T	F	F	T	F	T	T
F	T	F	T	T	T	T	F	F
F	F	F	T	F	T	F	T	F

Logically True
 Logically False
 Contingent

2. $[(A \supset B) \bullet \sim A] \supset \sim B$

A	B	$[(A \supset B) \bullet \sim A]$					\supset	\sim	B
T	T	T	T	F	F	T	T	F	
T	F	T	F	F	F	T	T	F	
F	T	F	T	T	T	F	F	T	
F	F	F	T	F	T	F	T	F	

Logically True
 Logically False
 Contingent

3. $(A \supset \sim A) \equiv \sim \sim A$

A	$(A \supset \sim A)$				\equiv	\sim	\sim	A
T	T	F	F	T	F	T	F	
F	F	T	T	F	F	F	T	

Logically True
 Logically False
 Contingent

2 Comparing PL Sentences

Instructions. For each of the following pairs of PL sentences, indicate whether they are (logically) equivalent, contradictory, consistent, or inconsistent by circling (**all**) the correct description(s) — **there may be more than one correct description**. Use the provided template (to the right of each pair of statements) to report your simultaneous truth-table calculations.

1. “ $(A \supset \sim A)$ ” vs “ $\sim A \supset (A \bullet \sim A)$ ”

A	$(A \supset \sim A)$				$\sim A \supset (A \bullet \sim A)$			
T	T	F	F	T	F	T	T	F
F	F	T	T	F	T	F	F	T

Equivalent
 Contradictory
 Consistent
 Inconsistent

2. “ $A \supset (B \supset C)$ ” vs “ $(B \bullet A) \supset C$ ”

A	B	C	$A \supset (B \supset C)$			$(B \bullet A) \supset C$		
T	T	T	T	T	T	T	T	T
T	T	F	T	F	F	T	T	F
T	F	T	T	T	T	F	F	T
T	F	F	T	T	F	F	F	T
F	T	T	F	T	T	T	F	T
F	T	F	F	T	F	T	F	F
F	F	T	F	T	T	F	F	T
F	F	F	F	T	F	F	F	T

Equivalent
 Contradictory
 Consistent
 Inconsistent

Connectives:

p	$\sim p$
T	F
F	T

p	q	$p \bullet q$
T	T	T
T	F	F
F	T	F
F	F	F

p	q	$p \vee q$
T	T	T
T	F	T
F	T	T
F	F	F

p	q	$p \supset q$
T	T	T
T	F	F
F	T	T
F	F	T

p	q	$p \equiv q$
T	T	T
T	F	F
F	T	F
F	F	T