

4.

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

5.

A	B	$(A \wedge B) \rightarrow (B \vee A)$					
T	T	T	T	T	T	T	T
T	F	T	F	F	T	F	T
F	T	F	F	T	T	T	F
F	F	F	F	F	T	F	F

6.

A	B	$\neg(A \vee B) \leftrightarrow (\neg A \wedge \neg B)$					
T	T	F	T	T	T	F	T
T	F	F	T	F	T	F	F
F	T	F	F	T	T	T	F
F	F	T	F	F	T	T	T

3. 24.

ABC	$((A \vee B) \wedge C)$	$(A \vee (B \wedge C))$	$((A \rightarrow B) \rightarrow C)$	$(A \rightarrow (B \rightarrow C))$
T T T	T T T	T T T	T T T	T T T
T T F	T T F	T T F	T T F	T T F
T F T	T F T	T F T	T F T	T F T
T F F	T F F	T F F	T F F	T F F
F T T	F T T	F T T	F T T	F T T
F T F	F T F	F T F	F T F	F T F
F F T	F F T	F F T	F F T	F F T
F F F	F F F	F F F	F F F	F F F

5.

9.

ABC	$((A \leftrightarrow B) \leftrightarrow C)$	$(A \leftrightarrow (B \leftrightarrow C))$
T T T	T	T
T T F	F	F
T F T	F	T
T F F	T	F
F T T	F	T
F T F	T	F
F F T	F	T
F F F	F	F

Handwritten notes: A vertical line separates the two columns. A large oval encircles the second column. A large oval encircles the third column. A horizontal line is drawn below the table. A curved line is drawn below the horizontal line.

The Same