

Getting familiar with . . . using the short truth table method to test for validity

Test each of the following arguments for validity using the short truth table method.

1. $(P \vee \sim Q) ; (R \supset \sim Q) \therefore (\sim P \supset R)$
2. $(A \vee B) ; (A \supset B) \therefore (B \supset \sim A)$
3. $(\sim(Y \& O) \vee W) \therefore (Y \supset W)$
4. $(Y \equiv Z) ; (\sim Y \vee \sim W) ; W \therefore Z$
5. $(E \vee F) ; (E \supset F) ; (C \& D) \therefore (F \supset \sim C)$
6. $\sim(P \equiv Q) ; (\sim P \& \sim W) ; \sim W \therefore Q$
7. $(\sim(A \& B) \vee C) \therefore (A \equiv C)$
8. $((A \& B) \& C) \& D \therefore E$
9. $((H \& I) \vee L) ; (L \& D) ; (D \supset \sim R) \therefore \sim L$
10. $(\sim W \& R) ; (S \supset W) ; (S \vee Q) \therefore Q$
11. $(L \supset (P \& Q)) ; \sim R ; (L \& (P \& O)) \therefore P$
12. $(A \supset C) ; (C \supset G) ; (R \supset S) ; (A \vee R) \therefore (G \vee S)$
13. $((Q \vee R) \supset S) \therefore (Q \supset S)$
14. $(Z \supset A) ; (Z \vee A) \therefore A$
15. $((K \vee L) \supset (M \vee N)) ; ((M \vee N) \supset O) \therefore O$
16. $(A \supset B) ; ((B \vee D) \supset L) ; (G \vee A) \therefore L$
17. $((\sim M \& \sim N) \supset (O \supset N)) ; (N \supset M) ; \sim M \therefore \sim O$
18. $((K \vee L) \supset (M \vee N)) ; ((M \vee N) \supset (O \& P)) ; K \therefore O$
19. $(A \supset C) ; (B \supset D) ; (C \supset B) ; (S \vee \sim D) ; S \therefore \sim A$
20. $(A \vee B) ; (A \& (C \vee D)) ; \sim D ; (B \supset C) \therefore \sim((C \vee D) \& (D \supset B))$