

Getting familiar with... using truth tables to test for validity

For each of the following arguments, construct its truth table and test it for validity.

1. $((P \supset Q) \& P) \therefore Q$

2. $(L \supset \sim L) \therefore \sim L$

3. $(M \equiv \sim N); \sim(N \& \sim M) \therefore (M \supset N)$

4. $(A \equiv \sim B) \therefore (B \vee A)$

5. $(A \supset A) \therefore A$

6. $((B \vee D) \vee E); \sim B; \sim E \therefore D$

7. $\sim R; (S \supset R) \therefore \sim S$

8. $\sim S; (S \supset R) \therefore \sim R$

9. $((A \& B) \vee (C \vee D)); \sim(C \vee D) \therefore A$

10. $(H \supset I); (J \equiv H); (\sim I \vee H) \therefore (J \equiv I)$

11. $(P \supset Q) \therefore R$

12. $(A \supset B); A \therefore C$

13. $((M \equiv \sim N) \& \sim(N \& \sim M)) \therefore \sim(N \vee M)$

14. $((A \equiv \sim B) \vee (B \vee A)) \therefore (A \& \sim B)$

15. $(A \supset A) \therefore A$

16. $((B \vee D) \vee E); \sim B; \sim E \therefore D$

17. $\sim R; (S \supset R) \therefore \sim S$

18. $\sim S; (S \supset R) \therefore \sim R$

19. $((A \& B) \vee (C \vee D)); \sim(C \vee D) \therefore A$

20. $(H \supset I); (J \equiv H); (\sim I \vee H) \therefore (J \equiv I)$