

Name: _____

Shortcut truth tables Color by Number

Using the following arguments, color in the pixel art on the last page based on whether the argument is valid or invalid. Determine using shortcut truth tables.

Invalid: ■

Valid: □

1. $P \supset Q$
 $Q \supset R$ $\therefore P \supset R$

2. $Q \vee S$
 $S \bullet \sim Q$ $\therefore Q$

3. $S \supset R$
 $Q \supset P$
 S $\therefore R \vee Q$

4. $A \vee B$
 $B \bullet C$
 $\sim A$ $\therefore C \supset A$

5. $A \equiv C$
 $A \vee B$ $\therefore C$

6. $\sim A \vee \sim B$
 $C \supset (A \bullet B)$ $\therefore \sim C$

$$7. \sim(A \bullet B) \\ C \vee A \quad / B \supset A$$

$$8. \sim A \vee B \\ C \supset A \\ \sim D \bullet B \quad / A \supset B$$

$$9. A \vee C \\ C \supset D \\ \sim D \quad / C$$

$$10. A \vee B \\ \sim B \bullet C \\ D \supset A \quad / A \vee \sim C$$

$$11. (P \bullet R) \vee Q \\ \sim P \\ R \vee S \quad / Q$$

$$12. T \vee S \\ \sim T \\ (S \vee R) \supset (\sim P \vee R) \quad / \sim R \supset \sim P$$

1	1	1	1	1	1	1	1	1	1	1	3	3	3	3	3	3	3	3
1	1	1	1	1	1	1	1	2	2	2	3	3	3	3	3	3	3	3
1	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	3
1	1	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3
1	1	1	6	6	1	1	1	2	2	2	2	2	2	3	3	3	3	3
1	1	6	6	6	6	6	2	2	2	2	2	2	2	3	3	3	8	8
1	1	6	6	6	6	4	4	2	2	2	2	2	2	2	8	8	8	8
1	1	4	4	4	4	4	6	6	5	5	5	5	5	5	8	8	8	8
1	7	7	7	7	7	4	4	6	6	6	6	6	6	6	5	5	5	8
1	1	7	7	7	7	4	4	4	4	5	5	5	5	5	5	5	5	8
1	1	1	7	7	4	4	4	4	4	5	5	5	5	5	5	5	5	8
1	1	7	7	1	1	1	4	5	5	5	5	8	8	8	9	8	8	8
1	1	7	1	1	1	9	11	11	11	11	11	7	8	8	8	9	8	8
1	7	1	1	1	9	9	9	11	11	11	7	7	7	8	8	8	9	8
1	7	1	1	1	11	11	11	11	11	8	8	8	8	8	8	8	9	8
1	7	1	10	10	7	7	7	9	9	8	9	9	9	9	8	8	8	9
1	7	10	10	10	10	7	7	7	9	9	9	9	9	8	8	8	8	9
10	10	7	10	10	10	10	10	10	10	8	8	8	8	8	8	8	9	12
10	10	10	7	10	10	10	7	8	8	8	9	8	8	8	9	12	12	12
10	10	10	10	7	7	7	8	7	7	7	8	9	9	9	12	12	12	12