# Truth Tables

Here’s a list of boolean expressions for your truth table worksheet:

1. A && !A
2. A || !A
3. A && B
4. A || B
5. !A && B
6. A && !B
7. !(A && B)
8. !A || !B
9. !(A || B)
10. !A && !B
11. A || (A && B)
12. A && A
13. A || A
14. !!A
15. A && (B || C)
16. (A && B) || (A && C)
17. A || (B && C)
18. (A || B) && (A || C)
19. !(A && B && C)
20. !A || !B || !C

## Boolean Expressions

Can you find the original boolean expression that results in each of the truth tables below?

## Two-Variable Expressions

**Example 1:**

| A | B | Result |
| --- | --- | --- |
| F | F | T |
| F | T | T |
| T | F | T |
| T | T | F |

**Example 2:**

| A | B | Result |
| --- | --- | --- |
| F | F | F |
| F | T | T |
| T | F | T |
| T | T | F |

**Example 3:**

| A | B | Result |
| --- | --- | --- |
| F | F | T |
| F | T | F |
| T | F | F |
| T | T | F |

**Example 4:**

| A | B | Result |
| --- | --- | --- |
| F | F | T |
| F | T | T |
| T | F | F |
| T | T | T |

**Example 5:**

| A | B | Result |
| --- | --- | --- |
| F | F | T |
| F | T | F |
| T | F | T |
| T | T | T |

**Example 6:**

| A | B | Result |
| --- | --- | --- |
| F | F | F |
| F | T | T |
| T | F | F |
| T | T | T |

## Three-Variable Expressions

**Example 7:**

| A | B | C | Result |
| --- | --- | --- | --- |
| F | F | F | F |
| F | F | T | T |
| F | T | F | T |
| F | T | T | T |
| T | F | F | T |
| T | F | T | T |
| T | T | F | T |
| T | T | T | T |

**Example 8:**

| A | B | C | Result |
| --- | --- | --- | --- |
| F | F | F | F |
| F | F | T | F |
| F | T | F | F |
| F | T | T | T |
| T | F | F | F |
| T | F | T | T |
| T | T | F | T |
| T | T | T | T |