

Boolean Expression Simplification

Use the Boolean Algebra laws to simplify each of the Boolean expressions. Create the logic gate circuit and truth table for the original and simplified Boolean expressions to verify that the Boolean expressions are equivalent.

| <u>Boolean Expression</u> | <u>Boolean Laws Used</u> | <u>Logic Circuit & Truth Tables</u> |
|---------------------------|--------------------------|---|
| 1. $(A + B)(A+C)$ | | |

2. $A + AB$

3. $A + \overline{AB}$

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Computer Engineering

Boolean Expression

Boolean Laws Used

Logic Circuit & Truth Tables

4. $(A + \overline{B} + \overline{C})(A + \overline{BC})$

5. $A + B(A + C) + AC$