Boolean Laws and Postulates Puzzle

1. **Identity Law**:
   Simplify the expression: $A+0A+0$.
   a) AA
   b) 00
   c) 11
   d) $A\bar{A}$

2. **Domination Law**:
   What is the result of $A \cdot 0A \cdot 0$?
   a) AA
   b) 00
   c) 11
   d) $A\bar{A}$

3. **Idempotent Law**:
   Simplify $A+AA+A$.
   a) AA
   b) 00
   c) 11
   d) $A\bar{A}$

4. **Complement Law**:
   What is $A+A\bar{A}+A$ equal to?
   a) AA
   b) 00
   c) 11
   d) $A\bar{A}$

5. **Commutative Law**:
   Which of the following is true?
   a) $A+B=B+AA+B=B+A$
   b) $A \cdot B=\bar{A} \cdot \bar{B}A \cdot B=A \cdot B$
   c) $A+B=\bar{A}+\bar{B}A+B=A+B$
   d) $A \cdot B=A+BA \cdot B=A+B$

6. **Associative Law**:
   Simplify $(A+B)+C(A+B)+C$.
   a) $A+(B+C)A+(B+C)$
   b) $A \cdot B \cdot CA \cdot B \cdot C$

c) A+B·C$A+B\cdot C$
d) A·B+C$A\cdot B+C$

7. **Distributive Law**:
   What is A·(B+C)$A\cdot(B+C)$ equal to?
   a) A·B+A·C$A\cdot B+A\cdot C$
   b) A+B·C$A+B\cdot C$
   c) A·B·C$A\cdot B\cdot C$
   d) A+B+C$A+B+C$

8. **De Morgan's Theorem**:
   Simplify A·B¯$A\cdot\bar{B}\cdot B$.
   a) A¯+B¯$\bar{A}+\bar{B}\cdot B$
   b) A¯·B¯$\bar{A}\cdot\bar{B}\cdot B$
   c) A+B$A+B\cdot B$
   d) A·B$A\cdot B\cdot B$

9. **Double Negation Law**:
   Simplify A¯¯$\bar{\bar{A}}$.
   a) AA
   b) A¯$\bar{A}$
   c) 00
   d) 11

10. **Absorption Law**:
    Simplify A+(A·B)$A+(A\cdot B)$.
    a) AA
    b) BB
    c) A·B$A\cdot B$
    d) A+B$A+B$

Key

1. a) AA
2. b) 00
3. a) AA
4. c) 11
5. a) A+B=B+A$A+B=B+A$
6. a) A+(B+C)$A+(B+C)$
7. a) A·B+A·C$A \cdot B+A \cdot C$
8. a) $\mathrm{A}^{-}+\mathrm{B}^{-}$$\overline{A}+B$
9. a) AA
10. a) AA