UIL Official List of Boolean Algebra Identities (Laws)

1. $A + A = A$ 
   Indempotent Law for OR
2. $A * A = A$ 
   Indempotent Law for AND
3. $A + B = B + A$ 
   Commutative Law for OR
4. $A * B = B * A$ 
   Commutative Law for AND
5. $A + (B + C) = (A + B) + C$ 
   Associative Law for OR
6. $A * (B * C) = (A * B) * C$ 
   Associative Law for AND
   Distributive Law for AND over OR
8. $A + B * C = (A + B) * (A + C)$ 
   Distributive Law for OR over AND
9. $A + 1 = 1$ 
   Law of Union
10. $A * 0 = 0$ 
    Law of Intersection
11. $A * (A + B) = A$ 
    Law of Absorption
12. $A + A * B = A$ 
    Law of Absorption
13. $A * 1 = A$ 
    Identity Law for AND
14. $A + 0 = A$ 
    Identity Law for OR
15. $\overline{A} = A$ 
    Double Negative Law
16. $A + \overline{A} = 1$ 
    Law of Complement for OR
17. $A * \overline{A} = 0$ 
    Law of Complement for AND
18. $\overline{A + B} = \overline{A} * \overline{B}$ 
    DeMorgan's Law
19. $\overline{A * B} = \overline{A} + \overline{B}$ 
    DeMorgan's Law
20. $A \oplus B = A * \overline{B} + \overline{A} * B = \overline{A} * B + A * \overline{B}$ 
    Exclusive OR (XOR)
21. $A \oplus \overline{B} = A * B + \overline{A} * \overline{B}$ 
    Exclusive NOR (XNOR)
22. $A + \overline{A} * B = A + B$ 
    Law of the "disappearing opposite"
23. $(A + B) * (A + C) = A + B * C$ 
    Reverse of Law #8
24. $(A + B) * (C + D) = A * C + A * D + B * C + B * D$ 
    FOIL (First, Outer, Inner, Last) Distribut

Note: **AND** will always be expressed explicitly with the * operator
FOIL (First, Outer, Inner, Last) Distribution