ELEC 101
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BOOLEAN ALGEBRA SUMMARY

Commutative:	$A+B=B+A$	$A \cdot B = B \cdot A$
Associative:	$A+(B+C)=(A+B)+C$	$A \cdot (B \cdot C) = (A \cdot B) \cdot C$
Distributive:	$A \cdot (B+C) = A \cdot B + A \cdot C$	$A+(B \cdot C) = (A+B) \cdot (A+C)$
De Morgan:	$\overline{A+B} = \bar{A} \cdot \bar{B}$	$\overline{A \cdot B} = \bar{A} + \bar{B}$
Involution:	$\bar{\bar{A}} = A$	
Absorption:	$A + A \cdot B = A$	$A \cdot (A+B) = A$
Other identities:	$A+0=A$ $A+\bar{A}=1$ $A+A=A$ $A+1=1$	$A \cdot 1 = A$ $A \cdot \bar{A} = 0$ $A \cdot A = A$ $A \cdot 0 = 0$

- precedence: Evaluate parentheses first, then NOT, then AND, then OR.
- "Duality": Note columns 2 & 3 related by:
  - Interchange AND & OR operations
  - Interchange 0 & 1.
- De Morgan example:

$$F = ABC + \bar{A}B\bar{C} + AB\bar{C}$$

$$\bar{F} = \overline{ABC + \bar{A}B\bar{C} + AB\bar{C}}$$

$$= $$