Cheatography

Laws of Boolean Algebra Cheat Sheet by johnshamoon via cheatography.com/33783/cs/10542/

Identities		De Morgan's Laws
0 + X = X		$\sim (X \cdot Y) \qquad \qquad = \sim X + \sim Y$
$0 \cdot X = 0$		\sim (X + Y) = \sim X · \sim Y
1 + X = 1		\sim (X · Y · Z) = \sim X + \sim Y + \sim Z
$1 \cdot X = X$		\sim (X + Y + Z) = \sim X · \sim Y · \sim Z
X + X = X		
$X \cdot X = X$		Theorems
		Theorem 1
Negation		$X + X \cdot Y = X$
X + ~X = 1		Theorem 2
~0 = 1		$X + \sim X \cdot Y = X + Y$
~1 = 0		Theorem 3
~~X = X		$X \cdot Y + \sim X \cdot Z + Y \cdot Z = X \cdot Y + \sim X \cdot Z$
$X \cdot \sim X = 0$		Theorem 4
Laws		X(X + Y) = X
Communative Law	$A \cdot B = B \cdot A$	Theorem 5
	A + B = B + A	$X(\sim X + Y) = X \cdot Y$
Associative Law	$A \cdot (B \cdot C) = (A \cdot B) \cdot C$	Theorem 6
	A + (B + C) = (A + B) + C	$(X + Y)(X + \sim Y) = X$
Distributive Law	$A \cdot (B + C) = A \cdot B + A \cdot C$	Theorem 7
	$A + B \cdot C = (A+B)(A+C)$	$(X + Y)(\sim X + Z) = X \cdot Z + \sim X \cdot Y$
		Theorem 8
		$(X + Y)(\sim X + Z)(Y + Z) = (X + Y)(\sim X + Z)$
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By johnshamoon

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