CS251 Laws of Boolean Algebra

Rule	Dual Rule	
$\overline{\overline{X}} = X$		
$X + 0 = X$	$X \cdot 1 = X$	**(identity)**
$X + 1 = 1$	$X \cdot 0 = 0$	**(zero/one)**
$X + X = X$	$XX = X$	**(absorption)**
$X + \overline{X} = 1$	$X\overline{X} = 0$	**(inverse)**
$X + Y = Y + X$	$XY = YX$	**(commutative)**
$X + (Y + Z) = (X + Y) + Z$	$X(YZ) = (XY)Z$	**(associative)**
$X(Y + Z) = XY + XZ$	$X + YZ = (X + Y)(X + Z)$	**(distributive)**
$\overline{X + Y} = \overline{X} \cdot \overline{Y}$	$\overline{XY} = \overline{X} + \overline{Y}$	**(DeMorgan)**