

Some Important Boolean Identities

Identity	Name
$\overline{\overline{x}} = x$	Law of the double complement
$x + x = x$ $x \cdot x = x$	Idempotent Laws
$x + 0 = x$ $x \cdot 1 = x$	Identity Laws
$x + 1 = 1$ $x \cdot 0 = 0$	Domination Laws
$x + y = y + x$ $xy = yx$	Commutative Laws
$x + (y + z) = (x + y) + z$ $x(yz) = (xy)z$	Associative Laws
$x + yz = (x + y)(x + z)$ $x(y + z) = xy + xz$	Distributive Laws
$\overline{(xy)} = \overline{x} + \overline{y}$ $\overline{(x + y)} = \overline{x} \overline{y}$	De Morgan's Laws
$x + xy = x$ $x(x + y) = x$	Absorption Laws
$x + \overline{x} = 1$	Unit Property
$x\overline{x} = 0$	Zero Property