

Table 4.1.4: Laws of Boolean algebra.

Idempotent laws:	$x + x = x$	$x \cdot x = x$
Associative laws:	$(x + y) + z = x + (y + z)$	$(xy)z = x(yz)$
Commutative laws:	$x + y = y + x$	$xy = yx$
Distributive laws:	$x + yz = (x + y)(x + z)$	$x(y + z) = xy + xz$
Identity laws:	$x + 0 = x$	$x \cdot 1 = x$
Domination laws:	$x \cdot 0 = 0$	$x + 1 = 1$
Double complement law:	$\overline{\overline{x}} = x$	
Complement laws:	$x \overline{x} = 0$ $\overline{1} = 0$	$x + \overline{x} = 1$ $\overline{0} = 1$
De Morgan's laws:	$\overline{x + y} = \overline{x} \overline{y}$	$\overline{xy} = \overline{x} + \overline{y}$
Absorption laws:	$x + (xy) = x$	$x(x + y) = x$