Boolean Laws Reference Sheet

Name of Law / Theorem	Form	Equivalent/Dual form (interchange AND and OR, and 0 and 1)
Identity	$0 + A = A$	$1 * A = A$
Inverse (or **Complements**)	$A\overline{A} = 0$	$A + \overline{A} = 1$
Commutativity	$A + B = B + A$	$AB = BA$
Associativity	$(AB)C = A(BC)$	$(A + B) + C = A + (B + C)$
Idempotent	$A + A = A$	$AA = A$
Null (or **Null Element**)	$0A = 0$ (**the Zero Law**)	$1 + A = 1$ (**the One Law**)
DeMorgan's	$\overline{A} + \overline{B} + \overline{C} + ... = \overline{ABC...}$	$\overline{A + B + C + ...} = \overline{A}\ \overline{B}\ \overline{C}...$
Absorption (or **Covering**)	$A + AB = A$	$A(A + B) = A$
Involution (or double negation)	$\overline{\overline{A}} = A$	none
Distributive	$A + BC = (A + B)(A + C)$	$A(B + C) = AB + AC$
Combining	$AB + A\overline{B} = A$	$(A + B)(A + \overline{B}) = A$
Consensus	$AB + \overline{A}C + BC = AB + \overline{A}C$	$(A + B)(\overline{A} + C)(B + C) = (A + B)(\overline{A} + C)$