$X(Y+Z) = XY + XZ$ (1)

$f_2 = XX + XY = X + XY = X(1+Y) = X$

Boolean Functions and Truth Tables

- Fill in the truth tables for the subexpressions and expressions given

$f_{AND} = XY$

$f_{OR} = X + Y$

$f_1 = XY + X$

$f_2 = (X + Y)X$

$f_a = XY'$

$f_b = X'Y$

$f_3 = XY' + X'Y$

X	Y	X·Y	X+Y	f_1	f_2	$X\bar{Y}$	$\bar{X}Y$	f_3 (XOR)
0	0	0	0	0	0	0	0	0
0	1	0	1	0	0	0	1	1
1	0	0	1	1	1	1	0	1
1	1	1	1	1	1	0	0	0

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