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Elec 2200

08/30/2021

HW5

1. $(\bar{x}y + xz) \cdot (x + \bar{y})$

$= (x+\bar{y})\bar{x}y + (x+\bar{y})xz$

$= \bar{x}yx + \bar{x}y\bar{y} + (x+\bar{y})xz$

$= 0 + \bar{x}y\bar{y} + (x+\bar{y})xz$

$= \bar{x}y\bar{y} + (x+\bar{y})xz$

$= 0 + (x+\bar{y})xz$

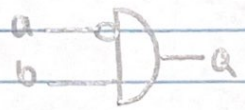
$= xzx + xz\bar{y}$

$= xz + xz\bar{y}$

$= xz$

2. 

a	b	a⊕b
0	0	0
0	1	1
1	0	1
1	1	0



a	b	$\bar{a}$	$\bar{a} \cdot b$
0	0	1	0
0	1	1	1
1	0	0	0
1	1	0	0

3.

x	y	z	out
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	1
1	1	1	1

out: $\bar{x}\bar{y}\bar{z} + \bar{x}y\bar{z} + x\bar{y}\bar{z} + xyz$