Ad : Qutaiba Alashqar.

oj. numasl :   20290036.

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ödev 2

Q1 // a // $F = xy'z + x'y'z + w'xy + x'y + wxy$

x	y	z	w	x'	y'	w'	xy'	x'y	xy	wx	(xy'z)+(x'y'z)	+wxy	xy'	wxy	F
0	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0
0	0	0	1	1	1	1	0	0	0	1	0	0	0	0	0
0	0	1	0	1	1	1	0	0	1	1	1	1	1	1	1
0	0	1	1	1	1	1	0	0	1	1	1	1	1	1	1
0	1	0	0	1	0	1	0	0	0	0	0	0	1	1	1
0	1	0	1	1	0	0	0	0	0	0	0	0	1	1	1
0	1	1	0	1	0	1	0	0	0	0	0	0	1	1	1
0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0
1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0
1	0	0	1	0	1	0	1	0	0	0	1	0	1	1	1
1	0	1	0	0	1	1	1	0	0	0	1	1	1	1	1
1	0	1	1	0	1	0	1	0	0	0	1	1	1	1	1
1	1	0	0	0	0	1	0	0	1	1	0	0	1	1	1
1	1	0	1	0	0	0	0	0	1	1	0	0	1	1	1
1	1	1	0	0	0	1	0	0	1	1	0	0	1	1	1
1	1	1	1	0	0	0	0	0	1	1	0	1	1	1	1

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b)
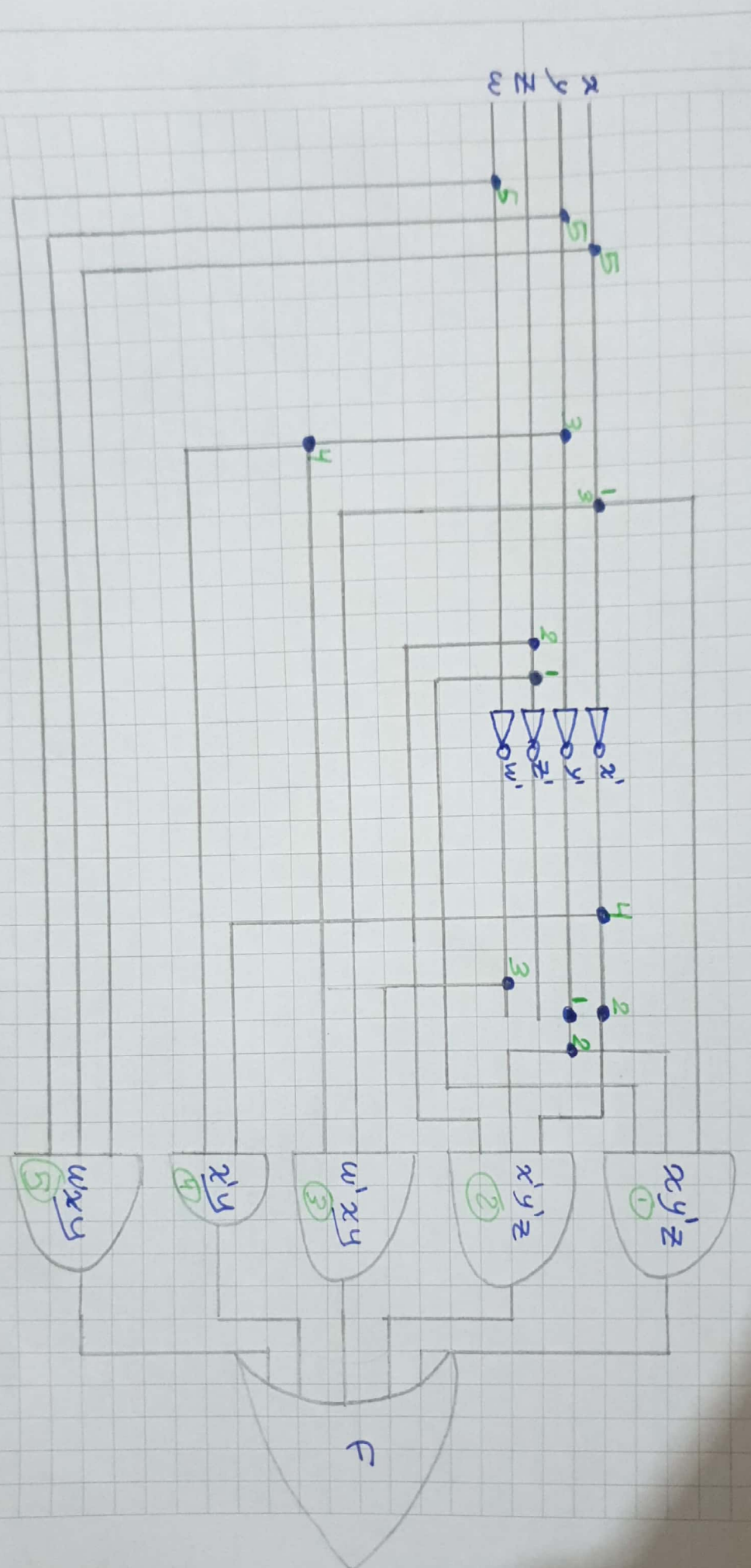
c) $F = xy'z + x'y'z + w'xy + x'y + wxy$

$F = y'z(x+x') + xy(w'+w) + x'y$

$F = y'z + xy + x'y$

$F = y'z + y$

$F = (y+y')\cdot(y+z) = y + z$
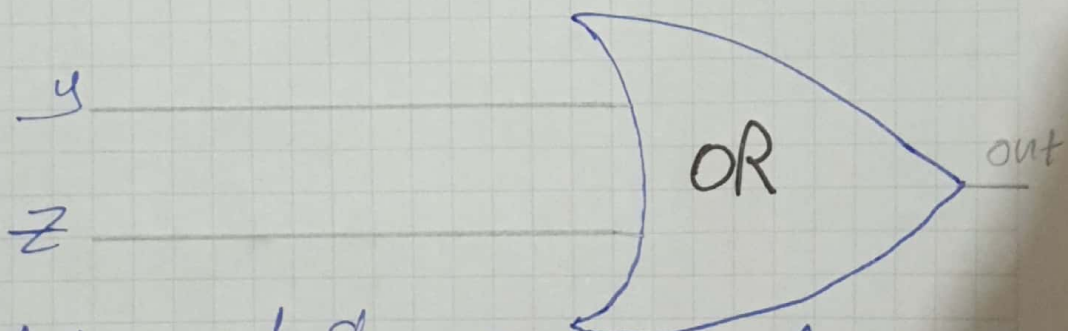
(d)

y	z	y+z	F
0	0	0	0
0	0	0	0
0	1	1	1
0	1	1	1
1	0	1	1
1	0	1	1
1	1	1	1
1	1	1	1
0	0	0	0
0	0	0	0
0	1	1	1
0	1	1	1
1	0	1	1
1	0	1	1
1	1	1	1
1	1	1	1

as we see "F" is the final result of the orjinal
Boolean gates system, the orjinal and the new upgraded gates systems result same so thats mean it's true

(e)

y ————

z ————

OR out

we hah been used 9 gate in the first system and now we just using 1 gate in this system thats cool :)