Michael Weyman 2-11-13

1.

a.)

|  |  |  |
| --- | --- | --- |
| X | Y | Function |
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |

b.)

|  |  |  |  |
| --- | --- | --- | --- |
| X | Y | Z | Function |
| 0 | 0 | 0 | 1 |
| 0 | 0 | 1 | 1 |
| 0 | 1 | 0 | 0 |
| 0 | 1 | 1 | 1 |
| 1 | 0 | 0 | 1 |
| 1 | 0 | 1 | 1 |
| 1 | 1 | 0 | 1 |
| 1 | 1 | 1 | 0 |

c.)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| W | X | Y | Z | Function |
| 0 | 0 | 0 | 0 | 1 |
| 0 | 0 | 0 | 1 | 0 |
| 0 | 0 | 1 | 0 | 0 |
| 0 | 0 | 1 | 1 | 0 |
| 0 | 1 | 0 | 0 | 1 |
| 0 | 1 | 0 | 1 | 1 |
| 0 | 1 | 1 | 1 | 1 |
| 1 | 0 | 0 | 0 | 1 |
| 1 | 0 | 0 | 1 | 0 |
| 1 | 0 | 1 | 0 | 1 |
| 1 | 0 | 1 | 1 | 1 |
| 1 | 1 | 0 | 0 | 0 |
| 1 | 1 | 0 | 1 | 0 |
| 1 | 1 | 1 | 1 | 1 |

2.

a.)~y(x(y + z) + ~z(~x + y))

b.) ~x \* ~z

c.) w \* (z~x + yx + yz) + (wxz)

3.

F\*G = xz

~(F\*G) = ~x + ~z

~F = x + ~y~z

~G = ~x + ~z

~F + ~G = ( x + ~y~z) + (~x + ~z)

~(F\*G) = ~F + ~G = ( 0 = 0 )

4.

(~w XOR x) + ~(~y \* Z)

5.

~x~z + x(~yz + y)

View work for chart

6.

View work for chart

7.

View work for chart

10.

a.) 512M \* 64 = 32,768M

b.) log2 512M = 29

c.) 64

d.) (512M \*64) + 1 = 32,768M + 1