1.

X	Y	Z	F
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	0

2.

A	B	C	D	F
0	0	0	0	1
0	0	0	1	1
0	0	1	0	1
0	0	1	1	1
0	1	0	0	1
0	1	0	1	1
0	1	1	0	1
0	1	1	1	0
1	0	0	0	1
1	0	0	1	1
1	0	1	0	1
1	0	1	1	0
1	1	0	0	1
1	1	0	1	0
1	1	1	0	0
1	1	1	1	0

3.

A. 01000010110001101000000000000000, 0x42c68000
B. 11000010110010011000000000000000, 0xc2c98000

4.

A. 4.75
B. 7.625

5.

X	*Y*	*Z*	*A*	*B*	*C*	*D*	*E*	*G*	*F*
0	0	0	0	0	0	1	1	0	0
0	0	1	0	0	0	1	1	0	0
0	1	0	0	0	0	1	1	0	0
0	1	1	1	1	0	0	0	0	0
1	0	0	1	0	1	0	1	1	1
1	0	1	0	0	0	1	1	0	0
1	1	0	1	0	1	0	1	1	1
1	1	1	1	1	1	0	0	0	1

6(a)

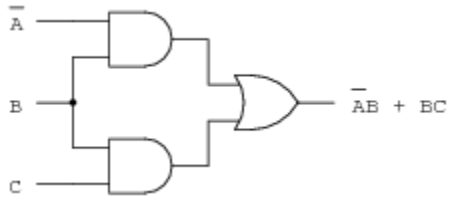
Solution: A'BC' + A'BC + ABC

6(b)

Solution: A'BC' + A'BC + ABC
= A'B(C' + C) + ABC
= A'B + ABC, AS C + C' = 1
= B(A' + AC)
= B(A' + A)(A' + C), Applying Distributive Law
= BA' + BC

6(c)

Reduced expression and gate circuit:



For reduction, use the property A + BC = (A + B)(A + C)