2.29

X	Y	X AND Y
0	0	0
0	1	0
1	0	0
1	1	1

2.33

a. 11010111

b. 111

c. 11110100

d. 10111111

e. 1101

f. 1101

2.34

a. 0111

b. 0111

c. 1101

d. 0110

2.37

The “procedure” can be :

[(*n* AND *m* AND (NOT *s*)) OR ((NOT *n*) AND (NOT *m*) AND *s*)] AND 1000

2.53

A	B	Q_1	Q_2
0	0	1	0
0	1	1	1
1	0	1	1
1	1	0	1

Q_2 = A OR B.

2.54

X	Y	Z	Q_1	Q_2
0	0	0	0	1
0	0	1	0	1
0	1	0	0	1
0	1	1	0	1
1	0	0	1	1
1	0	1	1	1
1	1	0	1	1
1	1	1	0	0

2.56

xE5 = $11100101_{(2)}$

$- 1.101_{(2)} \text{ X } 2^{12-7} = -52$

So the value is -52.

3.3

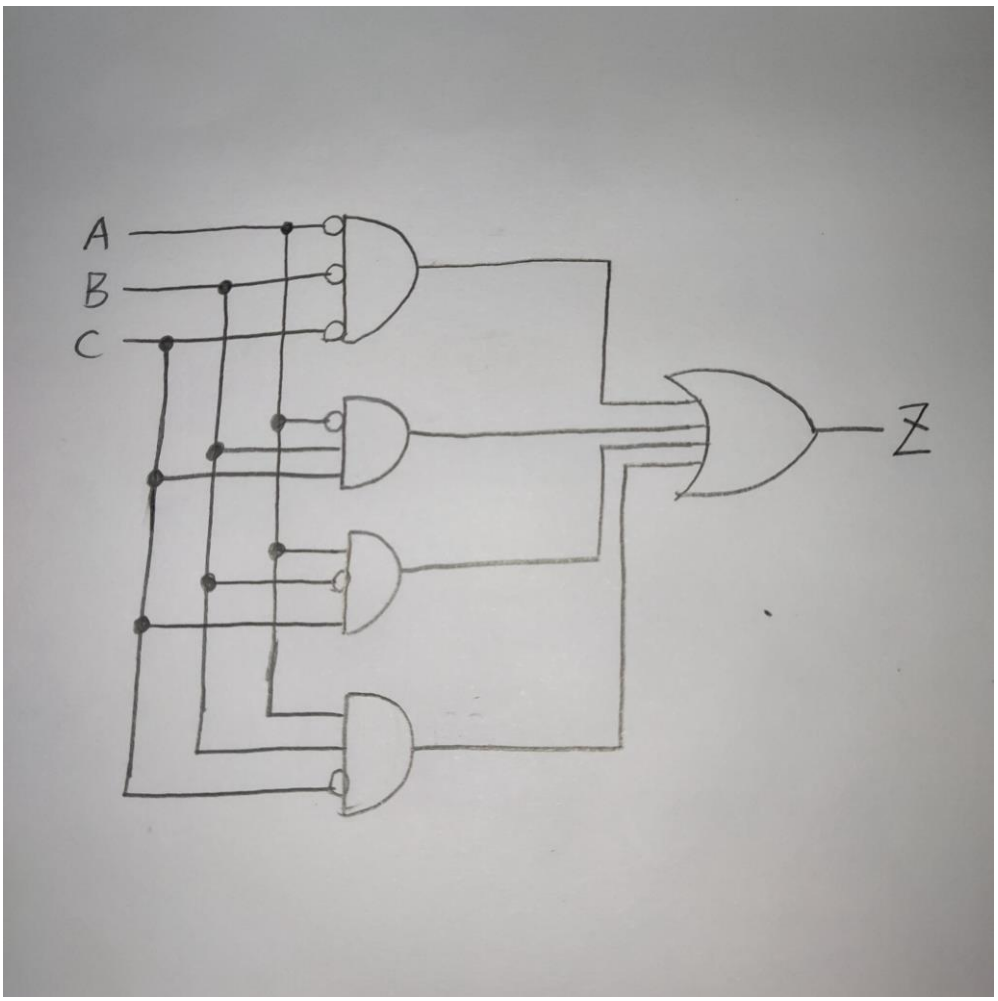
2*2*2*2=16

16 different two-input logic functions are possible.

3.5

A	B	C	OUT
0	0	0	1
0	0	1	0
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	0

3.16



3.23

A	B	C	Z
0	0	0	0
0	0	1	0
0	1	0	0
0	1	1	0
1	0	0	0
1	0	1	0
1	1	0	0

1	1	1	0