3.23

a) $Q = A + (B \cdot C)$

A	B	C	Q
0	0	1	0
0	1	0	0
1	0	0	1
0	1	1	1
1	0	1	1
1	1	0	1
1	1	1	1
0	0	0	0

b) $Q = (A + B) \cdot C$

A	B	C	Q
0	0	1	0
0	1	0	0
1	0	0	0
0	1	1	1
1	0	1	1
1	1	0	0
1	1	1	1
0	0	0	0

3.24 (b)

$Q = A \cdot B + A \cdot C + A \cdot \bar{B} \cdot C$

$Q = A \cdot (B + C + \bar{B} \cdot C)$

$Q = A \cdot (B + ((C + \bar{B}) \cdot (1 \cdot C))$

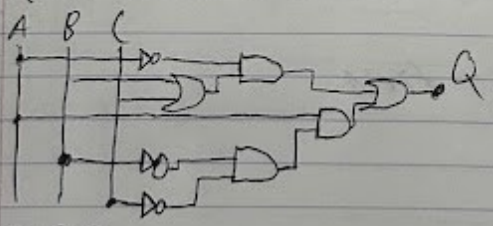
$Q = A \cdot (B + (C + \bar{B}) \cdot C)$

$Q = A \cdot (B + C)$

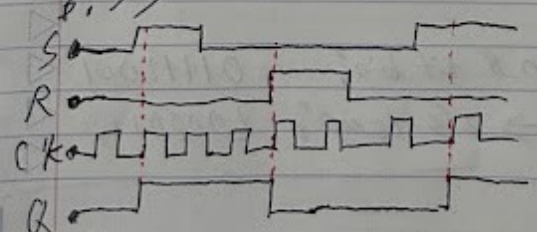
3.26

$Q = \bar{A} \cdot C + \bar{A} \cdot B + A \cdot \bar{B} \cdot$

$Q = \bar{A} \cdot (B + C) + A \cdot \bar{B} \cdot \bar{C}$



3.33



I know this drawing sucks, sorry

4.1 a&c
convert to hex & bin°.
a) 22
hex: 22/16 = 1 rem 6
→ 16
bin 22/16 = 1 rem 6
6/4 = 1 rem 2
2/2 = 1 rem 0
→ 10110

630
hex: 630/256 = 2 rem 118
118/16 = 7 rem 6
→ 276

bin: 630/512 = 1 rem 118
118/64 = 1 rem 54
54/32 = 1 rem 22
22/16 = 1 rem 6
6/4 = 1 rem 2
2/2 = 1 rem 0

→ 1001110110

4.6: 2's compliment, 8 bit field
a) -1
1 in 8 bit bin: 00000001
→ 2's comp: 11111110

b) -121 → 121 in 8 bit bin; 01111001
121/64 = 1 rem 57
57/32 = 1 rem 25
25/16 = 1 rem 9
9/8 = 1 rem 1
→ 2's comp° 10000110