

Extra Homework

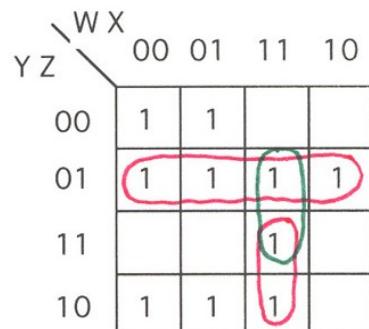
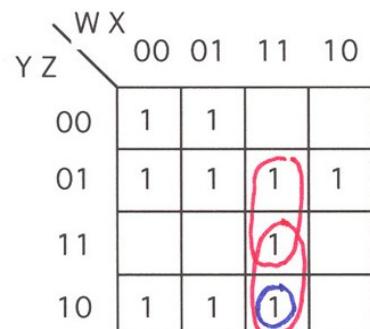
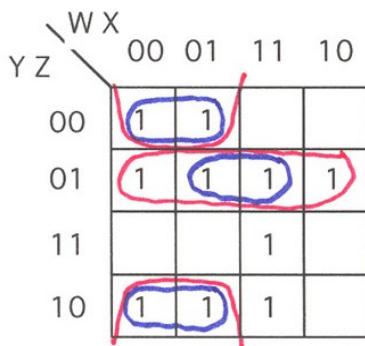
Chapter 1 & 2 Solutions

10. (subtrahend shown complemented)

		i. unsigned	ii. signed
a.	1		
	010101	21	+21
	<u>110011</u>	- 12	- +12
(1)	001001	9	+ 9
b.	1		
	010001	17	+17
	<u>100111</u>	- 24	- +24
(0)	111001	overflow	- 7
f.	1		
	111010	58	- 6
	<u>010010</u>	- 45	- -19
(1)	001101	13	+13

20.

$$\begin{aligned}
 c. \quad F &= \underline{W' Y Z'} + \underline{Y' Z} + W X Z + W X Y Z' + \underline{X Y' Z} + \underline{W' Y' Z'} \\
 &= W' Z' + Y' Z + \cancel{W X Z} + \cancel{W X Y Z'} \quad P9a, P12a \\
 &= W' Z' + \underline{Y' Z} + \cancel{W X Z} + \cancel{W X Y} \quad P10a \\
 &= W' Z' + Y' Z + W X Y
 \end{aligned}$$



Extra Homework Chapter 1 & 2 Solutions

20.

$$\begin{aligned}
 g. \quad G &= B' C' D + B C + \underline{A' B D} + \underline{A C D} + \underline{A' D} \\
 &= \underline{B' C' D} + B C + \underline{C D} + A' D \\
 &= \underline{B' D} + \underline{B C} + \underline{C D} + A' D \\
 &= B' D + B C + A' D
 \end{aligned}$$

P12a, P10a

P10a

P13a

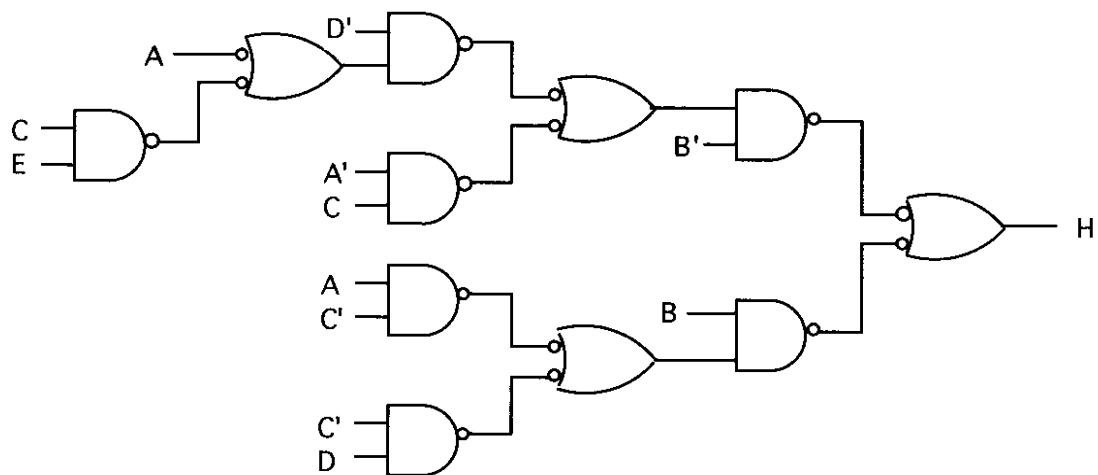
		A	B	CD	00	01	11	10
		00						
AB	CD	00						
		01	1	1				1
11	11	1	1	1	1	1	1	1
10			1	1	1	1		

		A	B	CD	00	01	11	10
		00						
AB	CD	00						
		01	1		1			1
11	11	1		1	1	1	1	1
10			1	1	1	1		

		A	B	CD	00	01	11	10
		00						
AB	CD	00						
		01	1	1				1
11	11	1	1	1	1	1	1	1
10			1	1	1	1		

25.

$$\begin{aligned}
 d. \quad F &= A' B' D' + A B C' + B' C D' E + A' B' C + B C' D \\
 &= B' D' (A' + C E) + B C' (A + D) + A' B' C \\
 &= B' [D' (A' + C E) + A' C] + B (A C' + C' D)
 \end{aligned}$$



Extra Homework

Chapter 1 & 2 Solutions

25.

$$\begin{aligned}
 f. \quad h &= b'd'e' + ace + c'e' + bcd'e \\
 &= ce(a + bd) + b'd'e' + c'e' \\
 &= [e' + c(a + bd)][e + b'd'] + c'e'
 \end{aligned}$$

