CSE260 - Digital Logic Design
Assignment 2 - Chapter 3 and 4

1. Simplify the following boolean expression to minimum number of literals using boolean algebra:

a. F(x, y, z) = ∑(2, 3, 5, 6, 7)
b. F(a, b, c, d) = ((a'+ab'd)'(a+cd'))'
c. F(a, b, c) = ∏(0, 1, 4, 6)

2. Draw the following functions using NAND gates only:

a. F(A,B,C) = (B'+A'C)'
b. F(w,x,y,z) = w'x'y + y'z + (x+z')

NB: You can't simplify the above functions and then draw using NAND gate. You have to draw based on the function given in question

3. Draw the following functions using NOR gates only:

a. F(A,B,C) = (B'+A'C)'
b. F(w,x,y,z) = w'x'y + y'z + (x+z')

NB: You can't simplify the above functions and then draw using NOR gate. You have to draw based on the function given in question

4. Find out canonical SOP, canonical POS, minterm and maxterm for the following expressions:

a. F(x, y, z) = xy+yz' (Use truth table)
b. F(A, B, C, D) = AB+ B'CD' (Use boolean algebra)

Extra Practice
[UNGRADED - You DO NOT need to submit this part]

Book: digital-logic-and-computer-design-by-m-morris-mano-2nd-edition.…

PDF Page 79, Book Page 69

Problems 2.2, 2.3, 2.4, 2.5, 2.6, 2.9, 2.11, 2.12, 2.16