Homework #3

due: Thursday, February 17, 2011

- Write your name at the top of each page of your solutions.
- Clearly indicate the start of the solution for each problem.
- Properly order and staple all pages of your solution.
- Show all of your work!
- A solution that requires physical units is incorrect without them.
- Clearly identify your result (e.g. box or circle the result).
- Always write neatly! If it cannot be read, it will not be graded!

- Always read the associated sections of the textbook before attempting the homework problems!

1. Roth and Kinney, problem 3.13 – parts (a) and (d)

2. Roth and Kinney, problem 3.21 – part (a) only.

3. Roth and Kinney, problem 3.25 – part (d) only.

4. For each Boolean expression, listed below, identify if it is in Sum of Products (SOP) form, Product of Sums (POS) form, or neither.
   (a) \( F(A,B,C,D) = ABD + B'CD' + A'B'CD + BD' \)
   (b) \( F(A,B,C,D) = A'B.(C + D) + AC'D' + C.(A' + B' + D) \)
   (c) \( F(A,B,C,D) = (A + B' + C')(B + D)(A' + C + D') \)
   (d) \( A + B' + C + D' \)
5. Roth and Kinney, problem 4.7

6. Roth and Kinney, problem 4.9

7. Roth and Kinney, problem 4.10

8. Roth and Kinney, problem 4.29

9. Roth and Kinney, problem 4.32 – parts (a) and (b)