Name:

Date:

Class: CS 160

Quiz #2

1) Convert the following binary numbers to decimal. (Three Points)

1. 000010012 = **9**10
2. 000000112 = **3**10
3. 000101002 = **20**10

2) Convert the following decimal numbers to **binary** (use 8 place holders; ex: 00000000 or 11111111). (Three Points)

1. 710 = **00000111**2
2. 11810 = **01110110**2
3. 2210 = **00010110**2

3) Convert the following decimal to its binary equivalent using **two’s compliment**. (Eight Points)

1. 710 = **0111**2
2. 310 = **0011**2
3. -510 = **1011**2
4. -810 = **1000**2

4) Add the following binary numbers using **regular binary** (Answers in ***8-bit binary***). (Three Points)

1. 000100002 + 000011112 = **00011111**2
2. 110010112 + 001000012 = **11101100**2
3. 101100002 + 000100112 = **11000011**2

5) Rotate the following binary numbers. (Three Points)

1. 11102 left(2) = **1011**2
2. 01102 right(1) = **0011**2
3. 00012 right(3) = **0010**2

EC) Complete the following operations using logic gates to get the final solution. (Four Points)

1. 01101

AND 11101

**01101**

1. 00110

OR 01011

**01111**

1. Answer from A

XOR Answer from B

**00010**