**COMP 2130, Quiz 2, Fall 2012**

Student Name: Student Number:

1. (3 marks)
2. Convert –221 to a 8-bit signed binary number, assuming the 2’s complement representation.
3. Convert the binary number in (a) to a hexadecimal number.
4. (3 marks)
5. Convert two hexadecimal numbers, 0xC9 and 0x38, to binary numbers *P* and *Q*.
6. Compute the binary subtraction *R* = *P* – *Q*, where *P* and *Q* are the binary numbers in (a), assuming the 2’s complement representation.
7. What is the subtraction result *R* in (b) in decimal?
8. (2 marks) Compute 0101 × 0101, assuming 4-bit 2’s complement representation. What is the result in decimal?
9. (2 marks) Compute 0101 / 0100, assuming 4-bit 2’s complement representation. What is the result in decimal?
10. (2 marks) Compute (0011 & 1101 ^ 0101 | 0011) << 2, assuming the 4-bit representation.
11. (4 marks) What message will the next code segment print?

char x, y, z;

unsigned char w;

x = 256;

y = 128;

z = x + y;

w = x + y;

printf(“%d, %d, %d, %d\n”, x, y, z, w);