Name:

Date:

Class: CS 160

Assignment #4

1) Convert the following decimal numbers to 8-bit floating point notation using excess notation for exponent.  Indicate if truncation error exists. (Four Points)

1. 1.510 = **01011100**2
2. 3.7510 = **01101111**2
3. -1.2510 = **11011010**2
4. -2.37510 = **11101001**2 **Truncation Error**

2) Convert the following 8-bit floating point notation using excess notation for exponent to decimal numbers. (Four Points)

1. 111011002 = **3.00**10
2. 101111002 = **-3/8**10
3. 101011012 = **13/64**10
4. 100111002 = **-3/32**10

3) Convert the following binary to hexadecimal. (Four Points)

1. 101001102 = **A6**16
2. 001101012 = **35**16
3. 111111102 = **FE**16
4. 111011002 = **EC**16
5. 101100002 = **B0**16
6. 011110002 = **78**16
7. 011000112 = **63**16
8. 010101012 = **55**16

4) Convert the following hexadecimal numbers to binary. (Four Points)

1. 3416 = **00110100**2
2. 1B16 = **00011011**2
3. 7016 = **01110000**2
4. F416 = **11110100**2 May combine binary into one 8-bit string
5. C816 = **11001000**2
6. 5D16 = **01011101**2
7. 9A16 = **10011010**2
8. 2E16 = **00101110**2

5) List three common “types” of data storage. (Four Points)

1. **Magnetic**
2. **Optical**
3. **Solid State / Flash**