

CS1356 Introduction to Information Engineering

Quiz 3, 2010/10/04

Your name _____ Student ID _____

- Express each of the following values in binary notation.
 - 12.625
 - $\frac{9}{16}$

- Decode the following bit pattern using the floating point format described as follows.
 - The first bit, from left to right, is for sign. 0 for positive numbers; 1 for negative numbers.
 - The next three bits are for exponent. The exponent uses excess notation, whose range is from -4 to 3.
 - The last four bits are for mantissa, whose value is in the range [1, 2).
 - 11001011

- Encode the following numbers to the 8-bit floating point format described in **problem 2**, and indicate which one has a **truncation error**.
 - 8.75
 - 1.125