1. Convert each of the following decimal numbers to a 10-bit binary number using **signed magnitude** form. Clearly indicate the signed bit followed by the 9 "magnitude" bits.

   a) -16

   b) -78

   c) 35

2. Convert each of the following decimal numbers to a 10-bit binary number using **one's compliment** form. Clearly indicate the signed bit followed by the 9 "magnitude" bits.

   a) -16

   b) -78

   c) 35

3. Convert each of the following decimal numbers to a 10-bit binary number using **two's compliment** form. Clearly indicate the signed bit followed by the 9 "magnitude" bits.

a) -16

b) -78

c) 35

d) 90

e) -389

f) 480

g) -123

h) -205

4. Convert each of the following binary numbers in floating point format to the corresponding decimal numbers.

a)

S	Exponent								Mantissa																							
0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	0	0

b)

S	Exponent								Mantissa																							
1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1

c)

S	Exponent								Mantissa																							
1	1	1	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	1	0	1	0

d)

S	Exponent								Mantissa																							
0	1	1	1	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	0	0

5. Convert each of the following decimal numbers to a floating point number using the format discussed in class.

a) 52.0

S	Exponent								Mantissa																							

b) -829.0

S	Exponent								Mantissa																							

c) 0.5

S	Exponent								Mantissa																							

d) -0.625

S	Exponent								Mantissa																					

e) 0.923

S	Exponent								Mantissa																					

f) 0.8515625

S	Exponent								Mantissa																					

g) -92.578125

S	Exponent								Mantissa																					