## HW5: Truncation, Sign Extension, and Arithmetic (CS220-02)

1) What is the resulting bit pattern when the unsigned 10 bit binary value 1101001101 is stored in an 8 bit container?

2) What is the resulting bit pattern when the signed 10 bit binary value 1100101110 is stored in an 8 bit container?

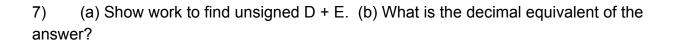
3) What is the resulting bit pattern when the unsigned 8 bit binary value 11001101 is stored in a 10 bit container?

4) What is the resulting bit pattern when the signed 8 bit binary value 01001101 is stored in a 10 bit container?

5) What is the resulting bit pattern when the signed 8 bit binary value 10110010 is stored in a 10 bit container?

## For problems 6 through 22, assume a 6 bit machine and that A = 000111, B = 111100, C = 011010, D = 110101 and E = 111101

6)	(a) Show work to find unsigned A + C.	(b) What is the decimal equivalent of the
answe	er?	



8) (a) Show work to find signed 2s complement A + D. (b) What is the decimal equivalent of the answer?

9) (a) Show work to find signed 2s complement -B + C. (b) What is the decimal equivalent of the answer?

Name:
10) (a) Show work to find signed 2s complement A + -B. (b) What is the decimal equivalent of the answer?
11) (a) Show work to find signed 2s complement C + E. (b) What is the decimal equivalent of the answer?
12) (a) Show work to find signed 2s complement B + D. (b) What is the decimal equivalent of the answer?
13) (a) Show work to find signed 2s complement C - A. (b) What is the decimal equivalent of the answer?

Name:
14) (a) Show work to find signed 2s complement A - D. (b) What is the decimal equivalent of the answer?
15) (a) Show work to find signed 2s complement E - C. (b) What is the decimal equivalent of the answer?
16) (a) Show work to find signed 2s complement -B - C. (b) What is the decimal equivalent of the answer?
17) (a) Show work to find signed 2s complement C - D. (b) What is the decimal equivalent of the answer?

Name:	
18) (a) Show work to find unsigned E * C. For this, restrict the result to 6 bits. (b) What is the decimal equivalent of the answer?	
19) (a) Show work to find signed 2s complement B * E. For this, restrict the result to 6 bits. (b) What is the decimal equivalent of the answer?	
<ul><li>(a) Show work to find signed 2s complement A * -B. For this, restrict the result to 6 bits.</li><li>(b) What is the decimal equivalent of the answer?</li></ul>	

Name:
21) (a) Show work to find signed 2s complement -E * A. For this, restrict the result to 6 bits. (b) What is the decimal equivalent of the answer?
(s) What is the desimal equivalent of the anower.
<ul><li>(a) Show work to find signed 2s complement B * -D. For this, restrict the result to 6 bits.</li><li>(b) What is the decimal equivalent of the answer?</li></ul>