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Chapter 3 Homework

**CSE 401**

**3.8**

Converting the numbers into their signed binary verisons

185 = 10111001 which is signed with a 1 making it a –185.

122 = 01111010 which is signed with a 0 making it a 122. Not negative

2's compliment for 122 is = 10001001

Now the addition of 185 and 122

185 = 10111001

122 = 10111001

= 00111111 = 63

With a 1 overflow at the end result

The result is 185-122 = 63 with a single bit as overflow

**3.24**

63.25 x 10^0 = 111111.01 x 2^0

Normalize the binary number: 1.1111101 x 2^5

With the sign being positive it becomes 1028

Therefore the binary representation with IEEE 754 double precision format is

01000000 01001111 10100000 00000000 00000000 00000000 00000000 00000000