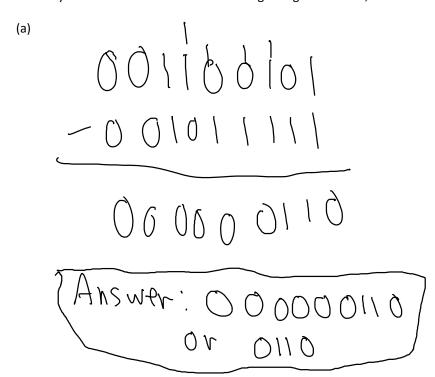
Saaif Ahmed

1. Give the sign-magnitude binary form:

2. Convert to two's-complement binary form.

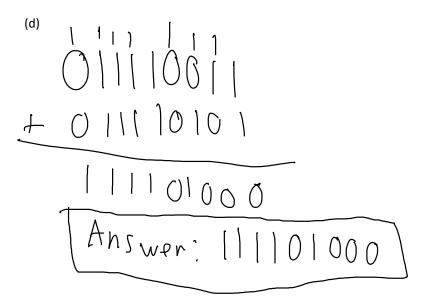
3. Convert the following decimal numbers to binary form with 4 bits before and 4 bits after the floating point.

4. Binary addition and subtraction in 9-bit sign-magnitude form, check for overflow.

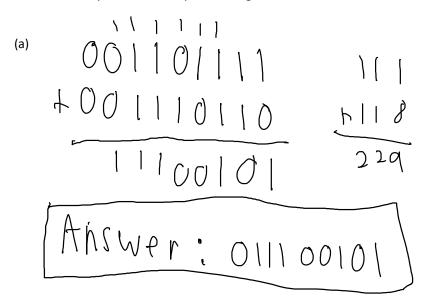


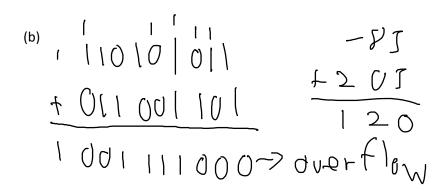
00100101 (b) -001111010 -111111011 -70verflow Answer: 111111011 011010011 1011010011 (c) 7 11 1 010 001 -> -111010001 1 10000001-> overtlow

[4 N2 mbh.; 10000001]



5. Perform the following additions of 2's complement numbers, showing all the carries, check for overflow. Verify the addition by converting to decimal.

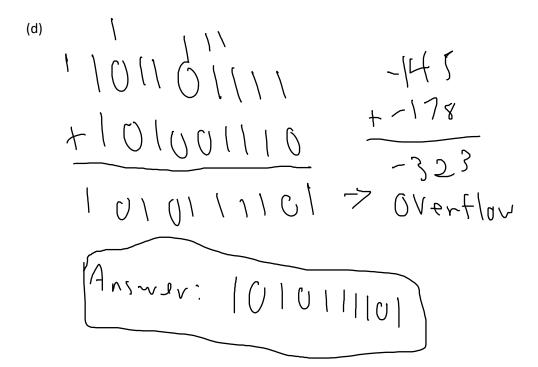


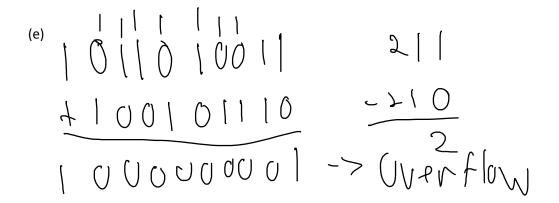


6:22 PM

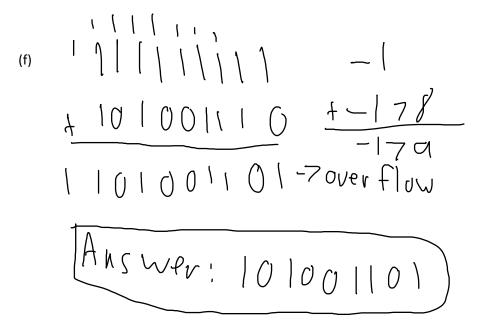
ANSWAN: 001111000

[Answer: 10000000]





Ahswen: 00000001



6. (a) What is the largest 7-bit sign-magnitude number? _____63____10
(b) What is the smallest (i.e., negative) 9-bit sign-magnitude number? _____-511_____10
(c) What is the largest 12-bit 2's complement number? ______2047_____10
(d) What is the smallest 12-bit 2's complement number? ______-2047_____10
(e) At most how many different values can be represented with 12 bits? _____4096_____10

HWAI Re-submission 28: -17,0= ____2 1747310001 011102 (1)21 1011 Answer= 1011112 0011010 Answer!

Answers 000000000 0001 000000000 Answer: DWWWWW 011101000) 0/11/10/01 1110 000 0 7 Overflow 5(: 40 00000001 +(-210) [Auswer: [0000 00002 1 0000000 > Overflow 5n: Answer 2 0/01/1101, 011 1101, > overflow $\frac{(2^8-1)=-255}{(2^8-1)=-255}$ Anguer = -255/ Answer = -2048 212 = 2048 possibilities -(212) = -2048 = wallest number