Name: Haidder Ali Chatha Date: 9/21/2019 file name: floatingpoint.pdf

First number 8.828125

8 = 1000 in binary

.828125

Decimal value	X2	Binary value
.828125	1.65625	1
.65625	1.3125	1
.3125	.625	0
.625	1.25	1
.25	.5	0
.5	1.0	1

.828125 = 110101 in binary value

1000 110101

1.000110101 x 2^3 in scientific form

0x410D4000 in Big Endinan form we reverse it to 0x00400D41 to get it in Little Endian form

Answer for first part is 0x00400D41

Second is little endian form 00C01EC2

First step I'll do is convert to

Big endian form: C21EC000

Convert hex to binary

1100 0010 0001 1110 0000 0000 0000

Sign: 1 (negative number)

Exponent: 10000100

Mantissa: 001 1110 1100 0000 0000 0000

Exponent: $128 + 4 = 132 \ 132 - 127 = 5$

Multiply mantissa by 2^5

 $(1/2)^3 + (1/2)^4 + (1/2)^5 + (1/2)^6 + (1/2)^8 + (1/2)^9$

= 1/8+1/16+1/32+1/64+1/256+1/512

= 64/512 + 32/512 + 16/512 + 8/512 + 2/512 + 1/512 = 123/512

123/512 + 512/512 = 635/512 x 2^5

1.240232375x2^5 = 39.6875

The answer for the second part is 39.6875