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CSCI-21 Quiz 7 Name Ismael Cortez

Closed notes, closed books, no electronic devices of any type. Please use pencil and erase mistakes. Show your work. 10 points

Convert 64.625 to an IEEE-754 floating point expressed in hexadecimal. (5 points)

128	64	32	16	8	4	2	1	
0	1	0	0	0	0	0	0	= 64

	625
1	250
0	500
1	000

$64.625 = 01000000,101 = 1.000000101 \times 2^6$

$127+6 = 133 = 128+5 = 10000101$

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0	10000101	00000010100000000000000
	4 2 8	1 4 0 0 0

0x42814000 ✓

Convert 0xC2838000 from IEEE-754to decimal. (5 points)

1	10000101	00000111000000000000000
	C 2 8	3 8 0 0 0

Sign: 1, Biased Exponent: 128+5 = 127+6

Binary: $1.00000111 \times 2^6 = 1000001.11$

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128	64	32	16	8	4	2	1	
0	1	0	0	0	0	0	1	= 65

0.5	0.25	0.125	0.0625	
1	1	0	0	= 0.75

-65.75 ✓