

Name:

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Roll no:

20P-0051

Section: 5A.

100.875

2	100	
2	50	0
2	25	0
2	12	1
2	6	0
2	3	0
	1	1

$$(100)_{10} = (1100100)_2$$

$$0.875 \times 2 = 1.75$$

$$0.75 \times 2 = 1.5$$

$$0.5 \times 2 = 1.0$$

$$(0.875)_{10} = (111)_2$$



$$(100.875)_{10} = (1100100.111)_2$$

16 bit	8 bit	23 bit
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= 32 bit

Finding Exponent:

1100100.111

$$\text{Jumps} = 6$$

So,

$$6 + 127 = 133$$

$$(133)_{10} = (10000101)_2$$

2	133
2	66 - 1
2	33 - 0
2	16 - 1
2	8 - 0
2	4 - 0
2	2 - 0
	1 - 0

Finding Mantissa:

100100111 ———  
 100100111 00000000 00000000



So the final result is

Sign bit = 0

Exponent = 10000101

Mantissa = 100100111000000000000000

0	10000101	100100111000000000000000
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