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Number System: (A)

Decimal: 156, 1024, 255

Binary:

a)

2	156
2	78 - 0
2	39 - 0
2	19 - 1
2	9 - 1
2	4 - 1
2	2 - 0
	1 - 0

$(10011100)_{10}$

b)

2	1024
2	512 - 0
2	256 - 0
2	128 - 0
2	64 - 0
2	32 - 0
2	16 - 0
2	8 - 0
2	4 - 0
2	2 - 0
	1 - 0

$(10000000000)_{10}$

c)

2	255
2	127 - 1
2	63 - 1
2	31 - 1
2	15 - 1
2	7 - 1
2	3 - 1
	1 - 1

$(11111111)_{10}$

to Octal :

a) 156

8	156
8	19 - 4
	2 - 3

$(234)_8$

b) 1024

8	1024
8	128 - 0
8	16 - 0
	2 - 0

$(2000)_8$

c) 255

8	255
8	31 - 7
	3 - 7

$(377)_8$

To Hexadecimal

a)

16	156
	9 - 12

$(9C)_{16}$

b)

16	1024
16	64 - 0
	4 - 0

$(400)_{16}$

c)

16	255
	15 - 15

$(FF)_{16}$

(B)

Decimal to Octal

8	124
8	15 - 4
	1 - 7

$(174)_8$

Hexadecimal to Octal

A78E

Hexa to decimal

$10 \times 16^3 + 7 \times 16^2 + 8 \times 16 + 14$

$= (42894)_{10}$

Dec -> Octal

8	42894
8	5361 - 6
8	670 - 1
8	83 - 6
8	10 - 3
	1 - 2

$(123616)_8$

~(C)~

a) $(784)_{10}$

Dec to Hexa

16	784
16	49 - (10)
	3 - 1

$(310)_{16}$

b) $(372)_8$

Oct -> Hexa

Oct -> Dec

$3 \times 8^2 + 7 \times 8 + 2$

$(250)_{10}$

Dec -> Hexa

16	250
	15 - 10

$(FA)_{16}$

—(1)—

a) $(235)_8$

Oct → Binary

Oct → Dec

$2 \times 8^2 + 3 \times 8 + 5$

$(157)_{10}$

2	157
2	78 - 1
2	39 - 0
2	19 - 1
2	9 - 1
2	4 - 1
2	2 - 0
	1 - 0

$(10011101)_2$

b) $(976)_{10}$

Dec to Binary

2	976
2	138 - 0
2	69 - 0
2	34 - 1
2	17 - 0
2	8 - 1
2	4 - 0
2	2 - 0
	1 - 0

$(1000101100)_2$

c) $(C13E)_{16}$

Hexa to Binary

C = 12 = 1100 In binary

1 = 0001

3 = 0011

E = 14 = 1110

So,

$(1100\ 0001\ 0011\ 1110)_2$