

Exercice 1 :

$$965_{(10)} = 1111000101_{(2)}$$

$$607_{(8)} = 110000111_{(2)}$$

$$A8B_{(16)} = 101010001011_{(2)}$$

Exercice 2 :

$$101111010_{(2)} = 272_{(8)}$$

$$1157_{(10)} = 2205_{(8)}$$

$$F1F_{(16)} = 111100011111_{(2)} = 7437_{(8)}$$

Exercice 3 :

$$0010110110011101_{(2)} = 2D9D_{(16)}$$

$$7106_{(8)} = 111001000110_{(2)} = E46_{(16)}$$

$$3589_{(10)} = E05_{(16)}$$

Exercice 4 :

$$10010111_{(2)} = 151_{(10)}$$

$$146_{(8)} = 102_{(10)}$$

$$C0E_{(16)} = 3086_{(10)}$$

Exercice 5 :

-101001, 10010, 1101110 ;

-101100011, 100000.

-101011, 110100.

-10011010, 10010110.

Exercice 6 :

$$(31)_{10} = (11111)_2$$

Partie Fractionnaire :

On multiplie successivement (0,75) par 2

$$0,75 * 2 = 1,50 \square 1$$

$$0,50 * 2 = 1,00 \square 1$$

$$0,00 * 2 = 0$$

$$\text{Donc } (0,75)_{10} = (0,11)_2$$

$$\text{Finalement } (31,75)_{10} \square (11111, 11)_2$$

$$(1111,0101)_2 = (15,3125)_{10}$$

$$(1111)_2 = (15)_{10}$$

Partie Fractionnaire :

$$(0,0101)_2 = 0 * 2^{-1} + 1 * 2^{-2} + 0 * 2^{-3} + 1 * 2^{-4} = 1/4 + 1/16 = 0,3125$$

Donc

$$(0,0101)_2 = (0,\mathbf{3125})_{10}$$

Finalement : $(1111,0101)_2 = (15,\mathbf{3125})_{10}$

$$1111,0101 = 15,3125$$