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exercice noté

#1

- 10000
- $2AA3_{16} \rightarrow$ base 10

  $(2 \times 16^3) + (10 \times 16^2) + (10 \times 16^1) + (3 \times 16^0) = 10915_{10}$

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  - $4B_{16} \rightarrow$ base 10

    $(4 \times 16^1) + (11 \times 16^0) = 75_{10}$
  - $4B_{16} \rightarrow$ base 2

    $0100\ 1011_2$
  - $4B_{16} \rightarrow$ base 8

    ① base 16 → base 10

    $(4 \times 16^1) + (11 \times 16^0) = 75_{10}$

    ② base 10 → base 8

    75 | 8
    -72 → ③ , 9 | 8
    -8 → ① , 1 | 8
    -0 → ①

    113_8

- $1011_{10} \rightarrow$ base 16

  1011 | 16
  -1008 → ③ , 63 | 16
  -48 → ⑮ , 3 | 16
  -0 → 3

  $3F3_{16}$

- EE_{16}

  $(14 \times 16^1) + (14 \times 16^0) = 238_{10}$

#2

non-signée → nbr + entiers seulement

$17_{10} \rightarrow$ base 2

17	12				
-16	8	12			
1	-8	4	12		
	0	-4	2	12	
		0	-2	1	12
			0	-0	0
				1	

rép: $17_{10} = 10001_2$

#3

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①	0	1	1	0	1
	1	0	0	1	0
+					1
	1	0	0	1	1

ⓐ $10011_2 = \boxed{19_{10}}$

•

①	1	0	0	1	1
	0	1	1	0	0
+					1
	1	1	0	1	

② $1101_2 = \boxed{13_{10}}$

#4

• 3,15

① partie entière

3	12		
-2	1	12	
1	-0	0	
	1		

$3_{10} \rightarrow 11_2$

② partie décimale

$0,15_{10} \rightarrow$ base 2 $= 0,00100110011...$

$0,15 \times 2 = 0,30$
$0,30 \times 2 = 0,60$
$0,60 \times 2 = 1,20$
$0,20 \times 2 = 0,40$
$0,40 \times 2 = 0,80$
$0,80 \times 2 = 1,60$
$0,60 \times 2 = 1,20$
$0,20 \times 2 = 0,40$
$0,40 \times 2 = 0,80$

$0,80 \times 2 = 1,60$
$0,60 \times 2 = 1,20$

③ normalisation

$11,00100110011... = 1,00100110011 \times 2^1$

(f)

④ $e = 1$

$\Rightarrow e - 1023 = 1$

$\Rightarrow e = 1024$

$1024_{10} \rightarrow$ base 2 $= 2^{10}$

$1024_{10} \rightarrow 10000000000_2$

rép: 0 | 10000000000 | 00100110011...

s | e | f

• -4

①

$4_{10} \rightarrow 100_2$

② normalisation

100,

$1,00 \times 2^2$

f

③ $e = 2$

$e - 1023 = 2$

$e = 1025$

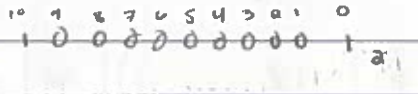
$1025_{10} \rightarrow$ base $2 = 2^{10}(1024) + 2^0(1)$

-1024

1

-1

0



rép: $\underbrace{1}_{s}\ \underbrace{10000000001}_{e}\ \underbrace{0\ldots0}_{f}$

=5

* + − et 2.3.4 et 10 } = 9

$((10-4)*2)+(-3)$

9