

a) $(111010)_2$

$$= 1 \cdot 2^5 + 1 \cdot 2^4 + 1 \cdot 2^3 + 0 \cdot 2^2 + 1 \cdot 2^1 + 0 \cdot 2^0 = 58$$

b) $(10101)_3$

$$1 \cdot 3^4 + 0 \cdot 3^3 + 1 \cdot 3^2 + 0 \cdot 3^1 + 1 \cdot 3^0 = 91$$

c) $(1221)_4$

$$1 \cdot 4^3 + 2 \cdot 4^2 + 2 \cdot 4^1 + 1 \cdot 4^0 = 64 + 32 + 8 + 1 = 105$$

Basta fazer a expansão!

e) $(717)_8$

$$= 7 \cdot 8^2 + 1 \cdot 8^1 + 7 \cdot 8^0 = 463$$

f) $(2765)_8$

$$= 2 \cdot 8^3 + 7 \cdot 8^2 + 6 \cdot 8^1 + 5 \cdot 8^0 = 1525$$

0, 1, 2, ..., 9

g) $(1FB2)_{16}$

$$= 1 \cdot 16^3 + \textcircled{15} \cdot 16^2 + \textcircled{11} \cdot 16^1 + 2 \cdot 16^0 = 8114$$

h) $(BE1A)_{16}$

4 8 6 6 6

$\frac{1}{8}$ $\frac{1}{4}$ $\frac{1}{2}$ $\frac{1}{1}$

A = 10

B = 11

C = 12

D = 13

E = 14

$\textcircled{F} = \textcircled{15}$

$$B_{10} \rightarrow B_2$$

a) $(567)_{10}$

b) $(983)_{10}$

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

$$(983)_{10} = B_{10}$$

$B_{10} \rightarrow B_2$

c) 12,25

1100, 2^{-1} 0 2^{-2} 1

1) Converter a parte inteira

$$12 = \frac{1}{8} \frac{1}{4} \frac{0}{2} \frac{0}{1}$$

$$2^{-2} = \frac{1}{2^2} = \frac{1}{4}$$

2) Converter parte decimal

$$\begin{array}{r} 0,25 \\ \times 2 \\ \hline 0,50 \end{array}$$

$$\begin{array}{r} 0,50 \\ \times 2 \\ \hline 1,00 \end{array}$$

$$\begin{array}{r} 1,00 \\ 1,00 \\ \hline 0,00 \end{array}$$

$$\frac{4}{1}$$

$$\frac{1}{4} \rightarrow 0,25$$

$$45,625 = (101101, \underline{101})_2$$

$$45 = \begin{array}{cccccc} 1 & 0 & 1 & 1 & 0 & 1 \\ \hline 32 & 16 & 8 & 4 & 2 & 1 \end{array}$$

$$\begin{array}{r} 1 \\ 0,625 \\ \times 2 \\ \hline \underline{1} 250 \end{array}$$

$$\begin{array}{r} 0,250 \\ \times 2 \\ \hline \underline{0,500} \end{array}$$

$$\begin{array}{r} 1 \\ 0,500 \\ \times 2 \\ \hline \underline{1,000} \end{array}$$

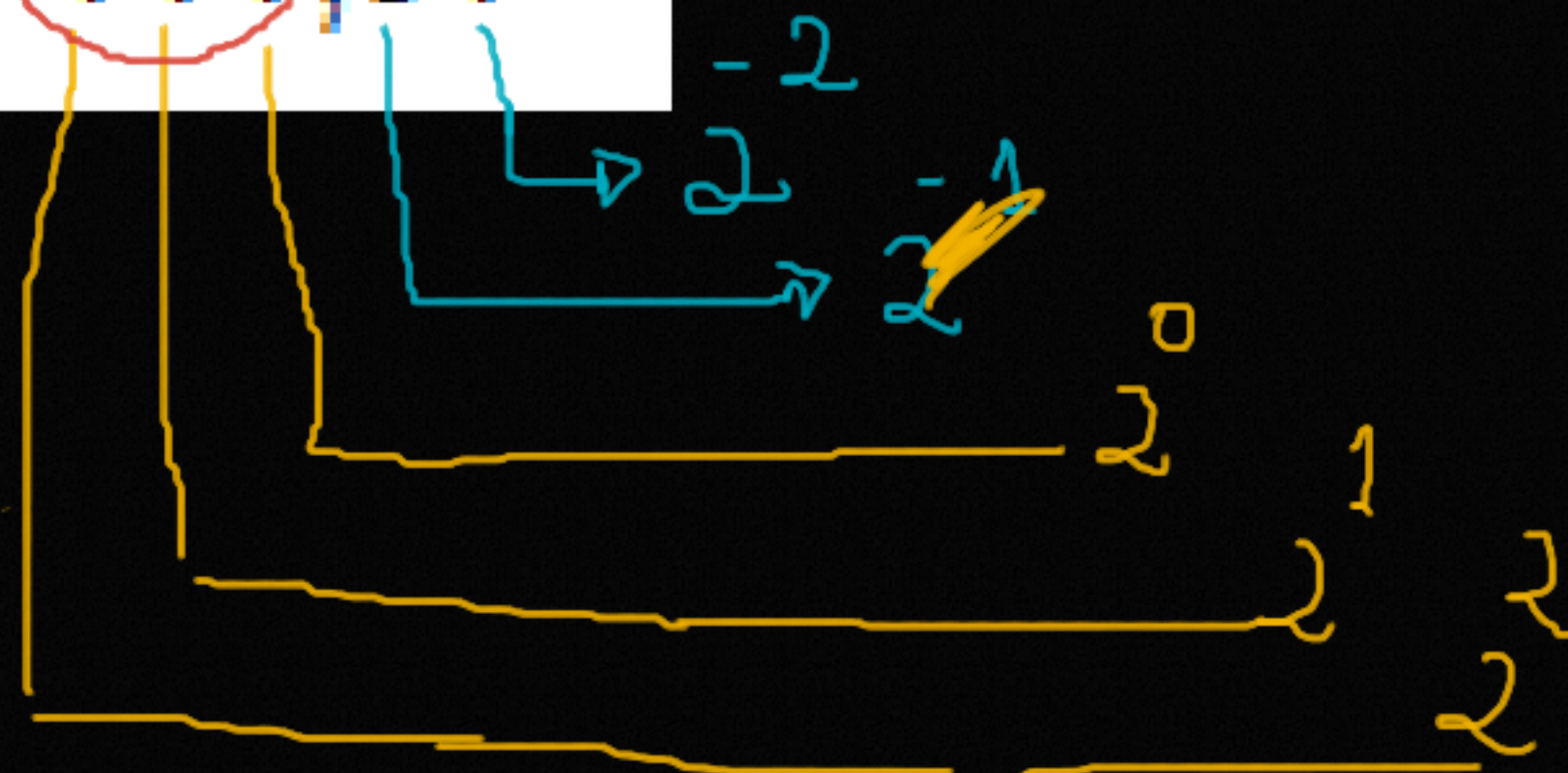
$B_2 \rightarrow B_{10}$

$$\frac{1}{4} + \frac{1}{2} + \frac{1}{4} = 7$$

7,25

$$\begin{array}{r} 7,00 \\ + 0,25 \\ \hline 7,25 \end{array}$$

a) 111,01



$$2^{-2} = \frac{1}{2^2} = \frac{1}{4} = 0,25$$

$(3,6)_{10}$

\rightarrow

$11,1001$

$11,1001 \dots$

$\begin{array}{r} 3,6 \\ - 3,0 \\ \hline 0,6 \end{array}$

$\frac{1}{2} \quad \frac{1}{1}$

$\begin{array}{r} 0,6 \\ \times 2 \\ \hline 1,2 \end{array}$

$\begin{array}{r} 0,2 \\ \times 2 \\ \hline 0,4 \end{array}$

$\begin{array}{r} 0,4 \\ \times 2 \\ \hline 0,8 \end{array}$

$\begin{array}{r} 0,8 \\ \times 2 \\ \hline 1,6 \end{array}$

$\begin{array}{r} 0,6 \\ \times 2 \\ \hline 1,2 \end{array}$

digimma



$$(15, 625)_{10} \rightarrow 1111, 101$$

$$\begin{array}{r} 1 \\ 1 \\ 1 \\ 1 \\ \hline 8 \\ 4 \\ 2 \\ 1 \end{array}$$

$$\begin{array}{r} 0,625 \\ \times 2 \\ \hline 1,250 \end{array}$$

$$\begin{array}{r} 0,250 \\ \times 2 \\ \hline 0,500 \end{array}$$

ASCII

$$\begin{array}{r} 0,500 \\ \times 2 \\ \hline 1,000 \\ A = \dots \\ B = 0 \end{array}$$

$$(13)_{10} \rightarrow \beta_2$$

$$\begin{array}{r} 1 \\ 1 \\ 0 \\ 1 \\ \hline 8 \\ 4 \\ 2 \\ 1 \end{array}$$

$$(1101)_2$$

$$(25, 735)_{10} = 11001, 10111...$$

6 digits

$$(11011, 10111)_{2^1, 2^2, 2^3, 2^4} \Rightarrow B_{10}$$

$$27, 6875$$

$$\begin{array}{r} 0,5000 \\ 0,1250 \\ 0,0625 \\ \hline 0,6875 \end{array}$$