

Exercícios

$$1) (11011011)_2 = (219)_{10}$$

$$= 2^7 + 2^6 + 2^4 + 2^3 + 2^1 + 1$$

$$= 128 + 64 + 16 + 8 + 2 + 1$$

$$= 219$$

$$2) 19/2$$

$$\begin{array}{r} \textcircled{1} 9/2 \\ \textcircled{1} 4/2 \\ \textcircled{0} 2/2 \\ \textcircled{0} 1/2 \\ \textcircled{1} 0 \end{array} \left. \vphantom{\begin{array}{r} 9 \\ 4 \\ 2 \\ 1 \\ 0 \end{array}} \right\} (19)_{10} = 10011$$

$$3) a) (39)_{10} = (100111)_2$$

$$\begin{array}{r} 39/2 \\ \textcircled{1} 19 \end{array}$$

$$b) (0,5625)_{10} = (0,1001)_2$$

$$\begin{array}{r} 0,5625/2 = 0 \\ \textcircled{0} 0 \end{array}$$

$$\begin{array}{r} 0,5625 \times 2 = 1,125 \\ \textcircled{1} 1250 \end{array} \rightarrow \begin{array}{r} 0,125 \times 2 = 0,25 \\ \textcircled{0} 250 \end{array} \rightarrow \begin{array}{r} 0,25 \times 2 = 0,5 \\ \textcircled{0} 50 \end{array} \rightarrow \begin{array}{r} 0,5 \times 2 = 1,0 \\ \textcircled{1} 0 \end{array}$$

$$c) (256,75)_{10} = (100000000,11)_2$$

$$\begin{array}{r} 256/2 \\ \textcircled{0} 128/2 \\ \textcircled{0} 64/2 \\ \textcircled{0} 32/2 \\ \textcircled{0} 16/2 \\ \textcircled{0} 8/2 \\ \textcircled{0} 4/2 \\ \textcircled{0} 2/2 \\ \textcircled{0} 1/2 \\ \textcircled{1} 0 \end{array} \quad \begin{array}{r} 0,75 \times 2 = 1,5 \\ \textcircled{1} 50 \\ 0,5 \times 2 = 1,0 \\ \textcircled{1} 0 \end{array}$$

spiral

d) $(129,625)_{10} = (10000001, 101)_2$

c) $129 \div 2$

① $64 \div 2$

② $32 \div 2$

③ $16 \div 2$

④ $8 \div 2$

⑤ $4 \div 2$

⑥ $2 \div 2$

⑦ $1 \div 2$

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$0,625 \rightarrow 0,25 \rightarrow 0,5$

$\times 2 \rightarrow 1,250 \quad \times 2 \rightarrow 0,50 \quad \times 2 \rightarrow 1,0$

4a) $\begin{array}{r} 0011 \\ + 1110 \\ \hline 10001 \end{array}$

b) $\begin{array}{r} 1110 \\ - 0100 \\ \hline 1010 \end{array}$

c) $\begin{array}{r} 10011 \\ \times 1101 \\ \hline 10011 \end{array}$

d) $\begin{array}{r} 11011011 \\ - 10111 \\ \hline 0010101 \\ - 1011 \\ \hline 01010 \end{array}$

$\begin{array}{r} 00000+ \\ 10011+ \\ 10011+ \\ \hline 11110111 \end{array}$