

4. Qual o valor decimal do número $x = 0x34343400$, representado em ponto flutuante, precisão simples. Mostre os passos na solução deste problema.

$$0x34343400 =$$

$$\begin{array}{cccccccc} 0011 & 0100 & 0011 & 0100 & 0011 & 0100 & 0000 & 0000 \\ \text{S} & \text{EP} & & & & \text{F} & & \end{array}$$

$$01101000_2 = 104$$

$$1, F = 1, \overset{0}{0} \overset{-1}{1} \overset{-2}{1} \overset{-3}{0} \overset{-4}{1} \overset{-5}{0} \overset{-6}{0} \overset{-7}{1} \overset{-8}{1} \overset{-9}{0} \overset{-10}{1} \overset{-11}{0} \overset{-12}{1} \overset{-13}{0} \overset{-14}{0} \overset{-15}{0} \dots$$

$$1 \cdot 2^0 + 1 \cdot 2^{-2} + 1 \cdot 2^{-3} + 1 \cdot 2^{-5} + 1 \cdot 2^{-10} + 1 \cdot 2^{-11} + 1 \cdot 2^{-13}$$

$$1 + \frac{1}{4} + \frac{1}{8} + \frac{1}{32} + \frac{1}{1024} + \frac{1}{2048} + \frac{1}{8192}$$

$$1, F = 1,40783691406$$

$$P_{\text{expo}} = 127$$

$$N = (-1)^S \cdot 1, F \cdot 2^{(EP-P)}$$

$$N = (-1)^0 \cdot 1,40783691406 \cdot 2^{(104-127)}$$

$$N = 1,40783691406 \cdot 2^{-23}$$

$$N = 1,40783691406 \cdot \frac{1}{8388608}$$

$$N = 0,000000167827$$

$$N = 1,67827 \times 10^{-7}$$