

CTA 171 2021 2 Semestre 2

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Tarefa básica

01. Efetuar

a) $(-3)^4 = -3 \cdot -3 \cdot -3 \cdot -3 = 81$

b) $0,5^3 = 0,5 \cdot 0,5 \cdot 0,5 = 0,125$

c) $15^1 = 15$

d) $1^{13} = 1 \cdot 1 \cdot 1 \dots = 1$

e) $0^{20} = 0$

f) $172^1 = 172$

g) $1^{422} = 1 \cdot 1 \cdot 1 \dots = 1$

h) $94^0 = 1$

02. UNICAMP

a)

$a = 3^3 = 3 \cdot 3 \cdot 3 = 27$

$b = (-2)^3 = -2 \cdot -2 \cdot -2 = -8$

$c = 3^{-2} = \left(\frac{1}{3}\right)^2 = \frac{1}{3} \cdot \frac{1}{3} = \frac{1}{9}$

$d = (-2)^{-3} = \left(\frac{1}{2}\right)^3 = \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{8}$

b) $-8, -\frac{1}{8}, \frac{1}{9}, 27$

03. FUVEST Qual desses números é igual a 0,064?

$$\left(\frac{2}{5}\right)^3 = \frac{2^3}{5^3} = \frac{8}{125}$$

(C) $\left(\frac{2}{5}\right)^3 = 0,064$

$$\begin{array}{r} 800 \overline{) 125} \\ 750 \\ \hline 500 \\ 500 \\ \hline 0 \end{array}$$

04. O valor da expressão $5^{-1} - \frac{1}{2}$ é:

$$5^{-1} - \frac{1}{2} = \left(\frac{1}{5}\right)^1 - \frac{1}{2} = \frac{2}{10} - \frac{5}{10} = \frac{-3}{10} = -0,3$$

(B) -0,3

$$\begin{array}{r} 30 \overline{) 10} \\ 30 \\ \hline 0 \end{array}$$

05. Completar o expoente da potência de base 10.

a) $241 = 0,241 \cdot 10^3$
 $0,241 \cdot 10^3 = 0,241 \cdot 1000 = 241$

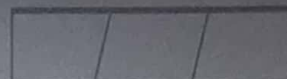
b) $241 = 2,41 \cdot 10^2$
 $0,241 \cdot 10^2 = 0,241 \cdot 100 = 241$

c) $241 = 24,1 \cdot 10^1$
 $0,241 \cdot 10^1 = 0,241 \cdot 10 = 241$

d) $0,241 = 2,41 \cdot 10^{-1}$
 $2,41 \cdot 10^{-1} = 2,41 \cdot 0,1 = 0,241$

e) $0,241 = 24,1 \cdot 10^{-2}$
 $24,1 \cdot 10^{-2} = 24,1 \cdot 0,01 = 0,241$





$$f) 0,241 = 241 \cdot 10^{-3}$$

$$241 \cdot 10^{-3} = 241 \cdot 0,001 = 0,241$$

$$g) 0,000241 = 2,41 \cdot 10^{-4}$$

$$2,41 \cdot 10^{-4} = 2,41 \cdot 0,0001 = 0,000241$$

$$h) 0,000241 = 24,1 \cdot 10^{-5}$$

$$24,1 \cdot 10^{-5} = 24,1 \cdot 0,00001 = 0,000241$$

$$i) 0,003412 = 3,412 \cdot 10^{-3}$$

$$3,412 \cdot 10^{-3} = 3,412 \cdot 0,001 = 0,003412$$

06. MACK - O valor de $2x^0 + x^{3/4} + 18x^{-1/2}$, quando $x = 81$, é

$$2 \cdot 81^0 + 81^{3/4} + 18 \cdot 81^{-1/2} =$$

$$2 + 27 + 18 \cdot \frac{1}{81^{1/2}} =$$

$$\frac{2+27+18}{(34)^{1/2}} = 81^{1/2}$$

$$\frac{81^{-1/2}}{81^{1/2}} = \frac{1}{81^{1/2}}$$

$$81^{3/4} = (34)^{3/4} = 3^{4 \cdot \frac{3}{4}} =$$

$$3^{12/4} = 3^3 = 3 \cdot 3 \cdot 3 = 27$$

$$(3^4)^{1/2} = 3^{4/2} = 3^2 = 9$$

$$\frac{2+27+18}{9}$$

$$2+27+2 = 31$$

$$\frac{18 \cdot 9}{18 \cdot 2}$$

(B) 31

