

Puterea cu exponent negativ

$$a^{-m} = \frac{1}{a^m}$$

Pentru orice $a \in \mathbb{R}^*$, $m \in \mathbb{Z}$

$$\left(\frac{a}{b}\right)^{-m} = \left(\frac{b}{a}\right)^m$$

Pentru orice $a, b \in \mathbb{R}^*$, $m \in \mathbb{Z}$

1) Calculați :

a) $3^{-4} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}};$

b) $4^{-3} = \underline{\hspace{2cm}} = \underline{\hspace{2cm}};$

c) $\left(\frac{1}{6}\right)^{-2} = \left(\underline{\hspace{2cm}}\right) = \underline{\hspace{2cm}};$

d) $(0,2)^{-2} = \left(\underline{\hspace{2cm}}\right) = \left(\underline{\hspace{2cm}}\right) = \left(\underline{\hspace{2cm}}\right) = \underline{\hspace{2cm}};$

e) $\left(\frac{2}{3}\right)^{-3} = \left(\underline{\hspace{2cm}}\right) = \underline{\hspace{2cm}};$

f) $\left(1\frac{3}{5}\right)^{-2} = \left(\underline{\hspace{2cm}}\right) = \left(\underline{\hspace{2cm}}\right) = \underline{\hspace{2cm}};$

g) $(0,3)^{-3} = \left(\underline{\hspace{2cm}}\right) = \left(\underline{\hspace{2cm}}\right) = \underline{\hspace{2cm}}.$

2) Completați astfel încât egalitatea să fie adevărată .

a) $3^{\blacksquare} = 81;$

c) $\left(\frac{1}{5}\right)^{\blacksquare} = \frac{1}{125};$

e) $\left(\frac{2}{3}\right)^{\blacksquare} = \frac{8}{27};$

b) $2^{\blacksquare} = \frac{1}{32};$

d) $\left(\frac{1}{4}\right)^{\blacksquare} = 64;$

f) $\left(\frac{4}{5}\right)^{\blacksquare} = \frac{25}{16}.$

3) Aflați valoarea expresiei :

$$\begin{aligned} \text{a) } \left(-\frac{1}{2}\right)^{-3} + \left(-\frac{2}{3}\right)^{-2} + \left(-\frac{3}{4}\right)^{-1} &= (\quad) + \left(-\frac{\quad}{\quad}\right) + \\ &+ \left(-\frac{\quad}{\quad}\right) = \quad + \frac{\quad}{\quad} - \frac{\quad}{\quad} = \frac{\quad}{\quad} = \\ &= \frac{\quad}{\quad} = \frac{\quad}{\quad}; \end{aligned}$$

$$\begin{aligned} \text{b) } \left(-\frac{2}{3}\right)^{-4} + \left(-1\frac{3}{5}\right)^{-2} &= \left(-\frac{\quad}{\quad}\right) + \left(-\frac{\quad}{\quad}\right) = \frac{\quad}{\quad} + \\ \left(-\frac{\quad}{\quad}\right) &= \frac{\quad}{\quad} + \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad} = \frac{\quad}{\quad}. \end{aligned}$$