

17. PROPIEDADES DE LAS POTENCIAS.

Nombre: _____.

1. Con ayuda de la calculadora, calcula paso a paso:

$$a) \left(\frac{2}{3}\right)^4 = \frac{2}{3} = \underline{\hspace{2cm}}$$

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

$$c) \left(\frac{4}{9}\right)^2 = \frac{4}{9} = \underline{\hspace{2cm}}$$

$$d) \left(-\frac{3}{2}\right)^4 = \left(\frac{-3}{2}\right)^4 = \frac{(-3)}{2} = \underline{\hspace{2cm}}$$

2. Expresa como potencia única:

$$a) 3^5 \cdot 3^7 \cdot 3^4 =$$

$$b) 7^6 : 7^2 =$$

$$c) 7^6 : (-7)^2 =$$

$$d) (-7)^7 \cdot (-7)^3 =$$

$$e) (-3)^4 : (-3)^3 =$$

$$f) 3^7 \cdot 3 =$$

$$g) 5^7 : 5^4 =$$

$$h) ((3)^7)^5 =$$

$$i) \left(\left(\frac{3}{2}\right)^7\right)^5 = (\underline{\hspace{2cm}})$$

$$j) ((-5)^3)^7 =$$

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

$$l) ((-1)^4)^6 =$$

$$\text{m)} \quad \left(\left(\frac{-1}{5} \right)^2 \right)^3 = \left(\frac{\quad}{\quad} \right)$$

$$\text{o)} 5^3 \cdot (-7)^3 =$$

$$\text{n)} (-3)^4 \cdot 5^4 =$$

$$\text{p)} (-10)^2 : (-5)^2 =$$

3. Expresa como una sola potencia:

$$\begin{aligned} \text{a)} \quad (9^{27} \cdot 3^{54})^{234} &= ((3 \quad)^{27} \cdot 3^{54})^{234} = \\ &= (3 \quad \cdot 3^{54})^{234} = (3 \quad)^{234} = 3 \end{aligned}$$

$$\begin{aligned} \text{b)} \quad (8^{23} \cdot 4^{34})^{114} : 16 &= \\ &= ((2 \quad)^{23} \cdot (2 \quad)^{34})^{114} : 2 \quad = \\ &= (2 \quad \cdot 2 \quad)^{114} : 2 \quad = \\ &= (2 \quad)^{114} : 2 \quad = 2 \quad : 2 \quad = \end{aligned}$$

$$\begin{aligned} \text{c)} \quad (81^{22} : 27^{18})^{51} : 9 &= \\ &= ((3 \quad)^{22} \cdot (3 \quad)^{18})^{51} : 3 \quad = \\ &= (3 \quad \cdot 3 \quad)^{51} : 3 \quad = \\ &= (3 \quad)^{51} : 3 \quad = 3 \quad : 3 \quad = \end{aligned}$$