ACTIVIDADES OPERACIONES ENTRE POTENCIAS

1. Simplifica y resuelve:

a) $15^{-4}:(-30)^{-4}=\left(\frac{\quad}{\quad}\right)^{\quad}=\left(\frac{\quad}{\quad}\right)^{\quad}=$

b) $\left(\frac{5}{7}\right)^{-5}\cdot\left(\frac{14}{5}\right)^{-5}=\left(\frac{\quad}{\quad}\right)^{\quad}=\left(\frac{\quad}{\quad}\right)^{\quad}=$

c) $8^{-6}\cdot\left(-\frac{1}{4}\right)^{-6}=\left(\frac{\quad}{\quad}\right)^{\quad}=\left(\frac{\quad}{\quad}\right)^{\quad}=$

d) $9^{2}\cdot 6^{-2}=\left(\frac{\quad}{\quad}\right)^{\quad}=$

e) $(-4)^{-3}:\left(\frac{2}{3}\right)^{-3}=\left(\frac{\quad}{\quad}\right)^{\quad}=\left(\frac{\quad}{\quad}\right)^{\quad}=$

f) $(-5)^{-4}:\left(\frac{1}{2}\right)^{4}=\left(\frac{\quad}{\quad}:\frac{\quad}{\quad}\right)^{\quad}=\left(\frac{\quad}{\quad}\right)^{\quad}=$

2. Expresa como una solo potencia de exponente positivo:

a) $2^{-2}\cdot 3^{-2}\cdot 7^{-2}=\left(\frac{\quad}{\quad}\cdot\frac{\quad}{\quad}\cdot\frac{\quad}{\quad}\right)^{\quad}=\left(\frac{\quad}{\quad}\right)^{\quad}$

b) $6^{-4}\cdot\left(-\frac{1}{9}\right)^{-4}:2^{-4}=\left(\frac{\quad}{\quad}\cdot\frac{\quad}{\quad}\cdot\frac{\quad}{\quad}\right)^{\quad}=\left(\frac{\quad}{\quad}\right)^{\quad}$

c) $7^{5}\cdot 14^{-5}:2^{-5}=\left(\frac{\quad}{\quad}\cdot\frac{\quad}{\quad}\cdot\frac{\quad}{\quad}\right)^{\quad}=\left(\frac{\quad}{\quad}\right)^{\quad}$

d) $4^{3}\cdot(-10)^{-3}\cdot\left(\frac{1}{5}\right)^{-3}=\left(\frac{\quad}{\quad}\cdot\frac{\quad}{\quad}\cdot\frac{\quad}{\quad}\right)^{\quad}=\left(\frac{\quad}{\quad}\right)^{\quad}$

3. Reduce a una única potencia de exponente positivo:

a) $\left[(-7)^{-2}\right]^{-4}\cdot(-7)^{-6}=(\quad)^{\quad}\cdot(\quad)^{\quad}=(\quad)^{\quad}$

b) $(-2)^{-5}:\left[(-2)^{2}\right]^{-3}:(-2)^{2}=(\quad)^{\quad}\cdot(\quad)^{\quad}=(\quad)^{\quad}$

c) $\dfrac{5^3 \cdot (5^2)^{-2}}{5^{-2}} = \dfrac{\_^{\_} \cdot \_^{\_}}{\_^{\_}} = \_^{\_}$

d) $a^3 \cdot a^{-2} \cdot a^{-5} = (\ )^{\_} \cdot (\ )^{\_} = \left(\ \right)^{\_}$

e) $(c^2)^{-5} \cdot c^3 : c^{-7} = (\ )^{\_} \cdot (\ )^{\_} = (\ )^{\_}$

f) $\dfrac{b^{-5} \cdot (b^{-1})^{-3}}{b^7} = \dfrac{\_^{\_} \cdot \_^{\_}}{\_^{\_}} = \left(\ \right)^{\_}$

4. Factoriza y simplifica estas potencias:

a) $27^{-1} \cdot 9^3 : 81 = (\_^{\_})^{\_} \cdot (\_^{\_})^{\_} : \_^{\_} = (\_)^{\_} = \left(\ \right)^{\_}$

b) $10^2 \cdot 25^{-1} : \left(\dfrac{4}{5}\right)^2 = \_^{\_} \cdot \_^{\_} \cdot (\_^{\_})^{\_} : \dfrac{(\_^{\_})^{\_}}{\_^{\_}} = \dfrac{\_^{\_}}{\_^{\_}}$

c) $\dfrac{3^4 \cdot 2^5 \cdot 5^{-2}}{9^2 \cdot 10^6} = \dfrac{\_^{\_} \cdot \_^{\_} \cdot \_^{\_}}{(\_^{\_})^{\_} \cdot \_^{\_} \cdot \_^{\_}} = \_^{\_} \cdot \_^{\_}$

d) $\dfrac{7^{-3} \cdot 6^4}{14^2 \cdot 3^{-3}} = \dfrac{\_^{\_} \cdot \_^{\_} \cdot \_^{\_}}{\_^{\_} \cdot \_^{\_} \cdot \_^{\_}} = \_^{\_} \cdot \_^{\_} \cdot \_^{\_}$

e) $\dfrac{4^{-2} \cdot 3^{-4} \cdot 8}{16^{-2} \cdot 9^3} = \dfrac{(\_^{\_})^{\_} \cdot \_^{\_} \cdot \_^{\_}}{(\_^{\_})^{\_} \cdot (\_^{\_})^{\_}} = \_^{\_} \cdot \_^{\_}$

f) $\dfrac{27^{-1} \cdot 49^{-2}}{21^{-2} \cdot 9} = \dfrac{(\_^{\_})^{\_} \cdot (\_^{\_})^{\_}}{\_^{\_} \cdot \_^{\_} \cdot \_^{\_}} = \_^{\_} \cdot \_^{\_}$