



15. Refuerza: propiedades de las potencias

1 Ya sabes que $(a \cdot b)^n = a^n \cdot b^n$. Completa las casillas vacías.

$$4^2 \cdot 3^2 = 12^{\square}$$

$$2^5 \cdot 5^5 = \square^5$$

$$4^3 \cdot 2^3 = 8^{\square}$$

$$3^4 \cdot 5^4 = \square^4$$

$$2^3 \cdot 10^3 = 20^{\square}$$

$$7^4 \cdot 2^4 = \square^4$$

2 Ya sabes que $\left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}$. Completa.

$$\frac{6^4}{2^4} = 3^{\square}$$

$$\frac{10^5}{2^5} = \square^5$$

$$\frac{15^3}{3^3} = 5^{\square}$$

$$\frac{6^5}{3^5} = \square^5$$

$$\frac{6^4}{12^4} = \left(\frac{1}{2}\right)^{\square} = \frac{1}{2^{\square}}$$

$$\frac{8^3}{12^3} = \left(\frac{\square}{\square}\right)^3$$

3 Ya sabes que $a^m \cdot a^n = a^{m+n}$. Completa las casillas vacías.

$$2^3 \cdot 2^4 = 2^{\square}$$

$$3 \cdot 3^2 \cdot 3^3 = 3^{\square}$$

$$5^3 \cdot 5^{\square} = 5^9$$

$$7^4 \cdot 7 = 7^{\square}$$

$$4^2 \cdot 4^{\square} = 4^5$$

$$4^2 \cdot 4^2 \cdot 4^{\square} = 4^6$$

4 Ya sabes que $a^m : a^n = \frac{a^m}{a^n} = a^{m-n}$. Completa.

$$2^8 : 2^5 = 2^{\square}$$

$$5^{\square} : 5^3 = 5^{\square}$$

$$7^4 : 7^{\square} = 7^2$$

$$\frac{10^3}{10} = 10^{\square}$$

$$\frac{3^2 \cdot 3^4}{3^3} = 3^{\square}$$

$$\frac{4^{\square}}{4^3 \cdot 4^2} = 4^2$$

$$\frac{5^7}{5^2} = 5^{\square}$$

$$\frac{2^{\square}}{2^5} = 2^3$$

$$\frac{5^9}{5^{\square} \cdot 5^3} = 5^4$$



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5 Ya sabes que $(a^n)^m = a^{n \cdot m}$. Completa.

$$(5^5)^3 = 5^{\square}$$

$$(4^5)^{\square} = 4^{15}$$

$$(a^2 \cdot b^4)^3 = a^{\square} \cdot b^{\square}$$

$$(8^3)^2 = 8^{\square}$$

$$(7^{\square})^2 = 7^4$$

$$\left(\frac{a}{b^2}\right)^4 = \frac{a^{\square}}{b^{\square}}$$

$$(2^4)^2 = 2^{\square}$$

$$(6^3)^{\square} = 6^6$$

$$\left(\frac{2}{a^5}\right)^{\square} = \frac{2^2}{a^{\square}}$$

6 Ya sabes que $a^0 = 1$. Completa las casillas vacías.

$$5^0 = \square$$

$$4^{\square} = 1$$

$$6^4 : 6^4 = 6^{\square} = \square$$

$$7^0 = \square$$

$$6^{\square} = 1$$

$$8^3 : 8^3 = 8^{\square} = \square$$

7 Ya sabes que $a^{-n} = \frac{1}{a^n}$. Completa.

$$2^{-3} = \frac{1}{2^{\square}}$$

$$4^{-2} = \frac{1}{4^{\square}}$$

$$7^{-1} = \frac{1}{\square}$$

$$5^{-2} = \frac{1}{5^{\square}}$$

$$3^{-3} = \frac{1}{3^{\square}}$$

$$10^{-5} = \frac{1}{10^{\square}}$$

$$\frac{1}{6^2} = 6^{\square}$$

$$\frac{1}{8^3} = 8^{\square}$$

$$\frac{1}{5} = 5^{\square}$$

$$\frac{1}{7^2} = 7^{\square}$$

$$\frac{1}{4^3} = 4^{\square}$$

$$\frac{1}{2^6} = 2^{\square}$$