PROPIEDADES DE LAS POTENCIAS

LÉELAS DESPACIO Y ATENTAMENTE

(siendo n cualquier número real positivo)

PROPIEDADES	EJEMPLO 1	EJEMPLO 2
$1^n = 1$	$1^{50} = 1$	$1^{473} = 1$
$0^n = 0$	$0^{100} = 0$	$0^{1000} = 0$
$a^0 = 1$	$34^0 = 1$	$(-7)^0 = 1$
$a^m \cdot a^n = a^{m+n}$	$7^2 \cdot 7^4 = 7^{2+4} = 7^6$	$(-2)^5 \cdot (-2)^3 =$ $= (-2)^{5+3} = (-2)^8 = 2^8$
$a^m : a^n = a^{m-n}$	$7^4 : 7^2 = 7^{4-2} = 7^2$	$7^{12} : 7^{10} = 7^{12-10} = 7^2$
$\dfrac{a^m}{a^n} = a^{m-n}$	$\dfrac{7^6}{7^4} = 7^{6-4} = 7^2$	$\dfrac{(-2)^5}{(-2)^3} = (-2)^2 = 2^2$
$(a^n)^m = a^{n \cdot m}$	$(7^3)^7 = 7^{3 \cdot 7} = 7^{21}$	$((-2)^2)^2 = (-2)^4 = 2^4$
$(a \cdot b \cdot c)^m = a^m \cdot b^m \cdot c^m$	$(3 \cdot 5 \cdot 7)^6 = 3^6 \cdot 5^6 \cdot 7^6$	$(3 \cdot 5 \cdot 7)^2 = 3^2 \cdot 5^2 \cdot 7^2$
$\left(\dfrac{a}{b}\right)^n = \dfrac{a^n}{b^n}$	$\left(\dfrac{8}{3}\right)^{10} = \dfrac{8^{10}}{3^{10}}$	$\left(\dfrac{-2}{3}\right)^4 = \dfrac{2^4}{3^4}$
$\left(\dfrac{a}{b}\right)^{-n} = \left(\dfrac{b}{a}\right)^n = \dfrac{b^n}{a^n}$	$\left(\dfrac{8}{3}\right)^{-10} = \dfrac{3^{10}}{8^{10}}$	$\left(\dfrac{8}{3}\right)^{-40} = \dfrac{3^{40}}{8^{40}}$
$a^{-n} = \left(\dfrac{1}{a}\right)^n = \dfrac{1^n}{a^n}$	$3^{-2} = \left(\dfrac{1}{3}\right)^2 = \dfrac{1}{3^2}$	$5^{-3} = \left(\dfrac{1}{5}\right)^3 = \dfrac{1}{125}$