POWER TO POWER RULE

IF AN EXPONENT IS RAISED TO ANOTHER EXPONENT, THEN THE FOLLOWING RULE APPLIES....

$$(x^m)^n = x^{m \cdot n}$$

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EXAMPLES:

1. Rewrite

$(x^2)^4$

$x^2 \cdot x^2 \cdot x^2 \cdot x^2$

x^8

2. Rewrite

$(y^{-2})^5$

y^{-10}

y^{10}

$\frac{1}{y^{10}}$

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POWER TO POWER RULE

DON'T FORGET TO DISTRIBUTE THE EXPONENT TO EVERYTHING IN THE PARENTHESES

$$(Ax^m)^n = A^n x^{m \cdot n}$$

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EXAMPLES:

3. Rewrite

$(2a)^3 = 2^3 a^3$

$2a \cdot 2a \cdot 2a$

$8a^3$

4. Rewrite

$(2cd^4)^2 (cd)^{-5}$

$2^2 c^2 d^8 \cdot c^{-5} d^{-5}$

$4c^2 d^8 \cdot c^{-5} d^{-5}$

$4c^{-3} d^3 = \boxed{\frac{4d^3}{c^3}}$

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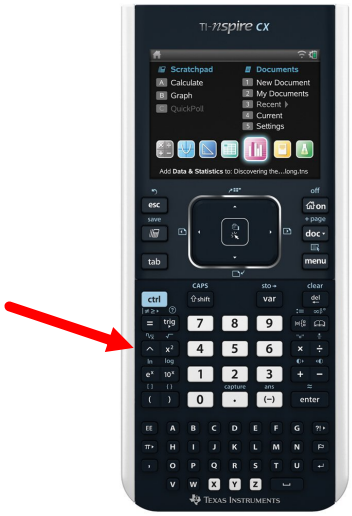
EXPONENTS: CALCULATOR

FOR POWERS BIGGER THAN **"3"** USE YOUR CALCULATOR



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