

Say the property.

$$b^m \cdot b^n = b^{m+n}$$

Product of Powers

$$b^m \cdot b^n = b^{m+n}$$

What goes first?

$$\frac{(2xy^4)^2}{x^2y}$$

$$(a^x b^y)^m = a^{xm} b^{ym}$$

$$\frac{(2xy^4)^2}{x^2 y}$$

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Product to a Power

Say the Property

$$\left(a^x b^y\right)^m = a^{xm} b^{ym}$$

Product to a Power

$$\left(a^x b^y\right)^m = a^{xm} b^{ym}$$

Simplify

$$2^{-3}$$

$$x^{-b} = \frac{1}{x^b}$$

$$2^{-3} = \frac{1}{8}$$

Switch to
Pos & Flip

What goes first?

$$\left(\frac{10x^3y^6}{5x^2y} \right)^{-3}$$

$$\frac{b^m}{b^n} = b^{m-n}$$

$$\left(\frac{10x^3y^6}{5x^2y} \right)^{-3}$$

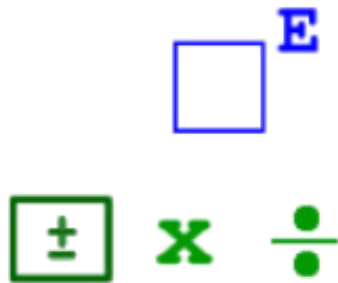
Quotient of Powers

Simplify

$$\frac{(x^2)^3}{x^6}$$

$$(a^x b^y)^m = a^{xm} b^{ym}$$


$$\frac{(x^2)^3}{x^6} = \frac{x^6}{x^6} = 1$$







$$\frac{b^m}{b^n} = b^{m-n}$$

What goes first?

$$\frac{(x^2 y)^5}{(xy^5)^3}$$





$$\frac{(x^2 y)^5}{(xy^5)^3}$$

$$(a^x b^y)^m = a^{xm} b^{ym}$$

$$(a^x b^y)^m = a^{xm} b^{ym}$$

Product to a Power
(top & bottom)

Simplify

$$\frac{4^{-2}}{3^{-2}}$$

$$x^{-b} = \frac{1}{x^b} \quad \& \quad \frac{1}{x^{-b}} = x^b$$

$$\frac{4^{-2}}{3^{-2}} = \frac{9}{16}$$

Switch to Pos & Flip

Switch to Pos & Flip

Say the Property

$$\left(\frac{a^x}{b^y} \right)^m = \frac{a^{xm}}{b^{ym}}$$

Quotient to a Power

$$\left(\frac{a^x}{b^y} \right)^m = \frac{a^{xm}}{b^{ym}}$$

What goes first?

$$\frac{(x^2)^3}{x^6}$$

$$(a^x b^y)^m = a^{xm} b^{ym}$$

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$$\frac{(x^2)^3}{x^6}$$

Product to a Power

What goes first?

$$\left(a^{-3}b^5 \cdot a^2b^4\right)^3$$



$$b^m \cdot b^n = b^{m+n}$$

$$\left(a^{-3} b^5 \cdot a^2 b^4 \right)^3$$



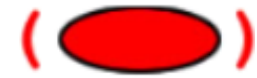
Although it is multiply, you can do it before the exponent (to the third), because it is in the parentheses, hence it is red to match the mind map instead of green which usually represents multiply.

What goes first?

$$\frac{3x^5}{(2x^6)^2}$$

$$(a^x b^y)^m = a^{xm} b^{ym}$$

$$\frac{3x^5}{(2x^6)^2}$$



Product to a Power

Simplify

$$-3^2$$

Simplify

$$-3^2 = -9$$

If you said $1/9$, GOTCHA!!!
The exponent here is not negative.
Hence, there is nothing to flip.

Say the Property

$$x^{-b} = \frac{1}{x^b} \quad \& \quad \frac{1}{x^{-b}} = x^b$$

Double Switch Negative Exponents

Top to Bottom
Make Exponent Positive

Bottom to Top
Make Exponent Positive

$$x^{-b} = \frac{1}{x^b} \quad \& \quad \frac{1}{x^{-b}} = x^b$$

What Goes First?

$$\frac{(10xy^2 \cdot 5x^6y^2)}{5xy}$$

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$$\frac{(10xy^2 \cdot 5x^6y^2)}{5xy}$$

$$\frac{(10xy^2 \cdot 5x^6y^2)}{5xy}$$

$$\frac{(10xy^2 \cdot 5x^6y^2)}{5xy}$$

$$\frac{(10xy^2 \cdot 5x^6y^2)}{5xy}$$

Highly Associate

What Goes First?

$$\left[\frac{2a}{(5ab)^2} \cdot \frac{(3ab)^3}{4a} \right]^{-1}$$

$$(a^x b^y)^m = a^{xm} b^{ym}$$

$$\left[\frac{2a}{(5ab)^2} \cdot \frac{(3ab)^3}{4a} \right]^{-1}$$

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Product to a Power

The End