

Bell Work

1/22/2015

Simplify the following:

$$\frac{1}{x^4} \xrightarrow{x^{10}} \frac{x^{10}}{x^4} = \frac{x^{10}}{x^4}$$

$$\frac{4}{z^{-10}} = \frac{4z^{10}}{z^0}$$

$$x^6$$

$$x^{-4} = \frac{1}{x^4}$$

Combining Like Terms	Product of Powers
$x + x + x =$	$x^r x^s =$

Power of Powers	Power of Products
$(x^r)^s =$	$(ab)^r =$

Quotient Powers	Powers of a Quotient
$\frac{x^r}{x^s} =$	$\left(\frac{a}{b}\right)^r =$

Back Cover

Definitions

Today we are going to be using our properties of exponents on practice problems.

We will be using the white boards.

Please make sure that you have a white board, dry-erase marker and something to erase with.

(a)^s

$$(4x^4y^{-3})^{-2}$$

$$4^{-2} x^{4 \cdot -2} y^{-3 \cdot -2}$$

$$4^{-2} x^{-8} y^6$$

$$= \frac{y^6}{4^2 x^8}$$

The image shows handwritten mathematical work in blue and green ink. On the left, there are two terms: $2x^{-5}$ and y^{-7} . Each term is enclosed in a blue oval. A green '2' is written to the left of the first term. Below each term, a blue arrow points downwards. To the right of these terms is a large blue oval containing a fraction. The numerator is '2' and the denominator is $x^5 y^7$.

$$2x^{-5} \quad y^{-7}$$
$$\frac{2}{x^5 y^7}$$

$$\frac{2^7 \cdot 2^8}{2^3} = 2^{12}$$

$$\frac{9^{12}}{9^5} = 9^7$$

$$\begin{array}{l}
 \left(\frac{b^2}{2a^3} \right)^{-2} \\
 \frac{b^{2 \cdot -2}}{2^{-2} a^{3 \cdot -2}} \\
 \frac{b^{-4}}{2^{-2} a^{-6}} = \frac{2^2 a^6}{b^4}
 \end{array}$$

$$\begin{aligned} & (6x^4)^2 (2x^2) \\ & 6^2 x^{4 \cdot 2} 2x^2 \\ & 6^2 x^8 \cdot 2x^2 \\ & 6^2 \cdot 2 \cdot x^{10} \end{aligned}$$

$$(4x^4 y^{-3})^{-2}$$

$$\frac{a^{-3} b^7 c^{-5}}{a^2 b^{-3} c^{-8}}$$

$$\frac{a^{-3} b^7 c^{-5}}{a^2 b^{-3} c^{-8}}$$

$$\frac{a^{-3}}{a^2} \cdot \frac{b^7}{b^{-3}} \cdot \frac{c^{-5}}{c^{-8}}$$

$$a^{-3-2} b^{7+3} c^{-5+8}$$

$$a^{-5}$$

$$b^{10}$$

$$c^3$$

$$= \frac{b^{10} c^3}{a^5}$$

$x^3 \cdot x^7$

$x^{\underline{3+7}} = x^{10}$

$(8x)^3 \cdot 8^{-4}$

$8^3 x^3 \cdot 8^{-4}$

$8^{3+(-4)} x^3$

$8^{-1} x^3$

$\frac{1}{8} x^3$

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

$(3x)^2$

$3^2 x^2$

$x \cdot x \cdot x$ ~~xxxxxxx~~

x^{10}