Name: Key

Per: _____

Exponent Review

Simplify the following:

1.) $\frac{56a^6 b^{-1}}{8a^{-3}b^7}$

$\frac{7a^9}{b^8}$

2.) $(-10x^{-5})(-2x^{-5})$

$20x^{-10} = \frac{20}{x^{10}}$

3.) $(-5x^{-1}y^{-2})(-10x^3y)^3$

$(-5x^{-1}y^{-2})(-10)^3x^9y^3)$

$(-5x^{-1}y^{-2})(-1000x^9y^3)$

$5000x^8y$

4.) $(3h^6k^4)^2$

$3^2h^{12}k^8 = 9h^{12}k^8$

5.) $(c^4d^2)^{-2}(2c^{-2}d^{-5})$

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

$\frac{2c^{-10}d^{-9}}{1} = \frac{2}{c^{10}d^9}$

6.) $\frac{(4x^2)^2(10xy^{-2})}{(2x^3y)^{-2}}$

$\frac{16x^4 \cdot 10xy^{-2}}{2^{-2}x^{-6}y^{-2}} = \frac{160x^5y^{-2}}{2^{-2}x^{-6}y^{-2}}$

$= \frac{4^2 \cdot 160 \cdot x^{11}}{1} = 640x^{11}$

7.) $\frac{-4x^{-6}}{8x^{-5}} = \frac{-1}{2x}$

8.) $\left(\frac{-3p^4q^{-5}r^8s^{-4}}{8^{-2}s^{-3}}\right)^0 = 1$

9.) $\frac{(3x^2y^{-1})^2}{18x^3y^3} = \frac{3^2x^4y^{-2}}{18x^3y^3}$

$= \frac{9x^4y^{-2}}{18x^3y^3} = \frac{1xy^{-5}}{2} = \frac{x}{2y^5}$