

Bellwork Monday, April 28, 2014

Simplify each. Write your answers so that no exponents are zero or negative. Leave fractions in reduced form, NOT decimals.

1. $(2a^4b^{-2}c^7)^3(4a^{-1}b^3c^5)^{-2}$

$$\begin{aligned} & (2^3 \underline{a^{12}} \underline{b^{-6}} \underline{c^{21}}) (4^{-2} \underline{a^2} \underline{b^{-6}} \underline{c^{-10}}) \\ & 2^3 a^{14} b^{-12} c^{11} 4^{-2} = \frac{8 a^{14} c^{11}}{4^2 b^{12}} = \frac{8}{16} \frac{a^{14} c^{11}}{b^{12}} \\ & \quad \quad \quad \frac{a^{14} c^{11}}{2 b^{12}} \end{aligned}$$

2. $\left(\frac{9m^3n^{-2}p^{-5}}{6m^8n^6p^{-6}} \right)^{-2}$

$$\begin{aligned} & \left(\frac{3^1 p^1}{2^1 m^5 n^8} \right)^{-2} = \frac{3^{-2} p^{-2}}{2^{-2} m^{-10} n^{-16}} = \boxed{\frac{4 n^{10} n^{16}}{9 p^2}} \end{aligned}$$