Algebra 2   Hwk #13   Rules of Exponents Review   Spring 2015   Name:

Use the following rules of exponents to simplify each expression. Make sure your answers doesn't contain any exponents that are zero or negative. Circle your answers.

$a^0 = 1$ $a^1 = a$ $a^{-n} = \dfrac{1}{a^n}$ $a^n \cdot a^m = a^{n+m}$ $(a^n)^m = a^{nm}$

$\dfrac{a^n}{a^m} = a^{n-m}$ $(a^n b^m)^x = a^{nx} \cdot b^{mx}$ $\left(\dfrac{a^n}{b^m}\right)^x = \dfrac{a^{nx}}{b^{mx}}$

1. $-9b^{-2}c^0 d^{-1}$

2. $(8c^4)^2$

3. $\dfrac{9Q^8}{3Q^2}$

4. $(4x^3 yz^8)(5xy^7 z^{-4})$

5. $\dfrac{24g^{-3}h^4 k^0}{6j^8 m^{-5}}$

6. $(5a^{-4}b^5)^2 (2a^6 b^{-2})^3$

7. $\left(\dfrac{g^4 h^{-5} j}{g^{-2}h^3 j^9}\right)^3$

8. $(3c^{-4}d^6 e)^{-2}$

1