Algebra 2 Hwk #6 Rules of Exponents Review Spring 2016 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.

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

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

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

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

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

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

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

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

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

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