Hon Alg 2 Hwk #12 Rules of Exponents Review Spring 2017 Name:

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

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

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

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

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

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

4. $(4x^3y^{-1}z^5)(5xy^7z^{-8})$

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

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

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

8. $\left(\frac{6c^{-4}d^6}{2cd^2}\right)^{-2}$