

Practice Dividing Expressions with Exponents

Name Key

- Simplify Each Expression. (Remember when simplifying no negative exponents unless the directions ask for negative exponents.)

1)  $\frac{4^{12}}{4^8}$       4<sup>4</sup>

2)  $\frac{w^{18}}{w^{13}}$       w<sup>5</sup>

3)  $\frac{(-12)^{73}}{(-12)^{73}} = 1$

4)  $\frac{8h^{20}}{32h^{20}}$        $\frac{1}{4}$

5)  $\frac{6^{12}}{6^{14}} = \frac{1}{6^2} = \frac{1}{36}$

6)  $\frac{w^4}{w^{11}} = \frac{1}{w^{11}}$

7)  $\frac{w^3 x^{-2}}{y^{-70} z}$        $\frac{w^3 x^2 y^{70}}{z}$

8)  $\frac{15x^4 y^5}{12x^6 y^7} = \frac{5}{4x^2 y^2}$       9)  $\frac{a^2(2ab)^4}{4a(b^5)} = \frac{4a^5}{b}$

10)  $\frac{(x^2 y^5)^2}{(x^3 y^3)^3} = \frac{y}{x^5}$

11)  $(2x^2 y^{-3})^2 (3x^2 y^{-3})^{-2} = \frac{4}{9}$

- Write without a fraction bar (use negative exponents)

12)  $\frac{x^4 y^4}{x^9 y}$       x<sup>-5</sup> y<sup>3</sup>

13)  $\frac{m^3 n^5}{m^8 n^7}$       m<sup>-5</sup> n<sup>-2</sup>