

Zero and Negative Exponents HW

Name: Key

Simplify.

$$1) 7^0 = 1$$

$$2) 5x^0 = 5 \cdot 1 = 5$$

$$3) (-2)^0 = 1$$

$$4) -3^0 = -1$$

$$5) 6^0 \cdot 6 = 1 \cdot 6 = 6$$

$$6) 11^{-3} = \frac{11^{-3}}{1} = \frac{1}{11^3}$$

$$7) 5^{-3} = \frac{5^{-3}}{1} = \frac{1}{5^3} \text{ or } \frac{1}{125}$$

$$8) x^{-3} y^4 = \frac{\cancel{x^3} y^4}{x^3 \cdot 1} = \frac{y^4}{x^3}$$

$$9) \frac{a^{-1} b^4}{c^{-3}} = \frac{\cancel{a^{-1}} b^4 c^3}{a^1 \cancel{c^{-3}}} = \frac{b^4 c^3}{a}$$

$$10) \frac{3^{-3} a^4}{b^{-2}} = \frac{\cancel{3^{-3}} a^4 b^2}{3^3 \cancel{b^{-2}}} = \frac{a^4 b^2}{3^3} = \frac{a^4 b^2}{27}$$

$$11) \frac{a^5 b^{-3} c^{-2}}{d^{-5}} = \frac{a^5 \cancel{b^{-3}} \cancel{c^{-2}} d^5}{b^3 c^2 \cancel{d^{-5}}} = \frac{a^5 d^5}{b^3 c^2}$$

$$12) \frac{d^2 e^{-3}}{-b^2 f^{-1}} = \frac{d^2 \cancel{e^{-3}} f^1}{-b^2 \cancel{f^{-1}} e^3} = \frac{d^2 f^1}{-b^2 e^3} = \frac{d^2 f^1}{-36 e^3}$$