

Day 2 - Review of Dividing Powers - Practice

1. Directions: Simplify each expression:

$$a. \frac{x^5}{x^3} = x^2$$

$$b. \frac{y^4}{y^2} = y^2$$

$$c. \frac{a^3}{a^3} = 1$$

$$d. \frac{-h^{14}}{h^5} = -h^9$$

$$e. \frac{-12x^7}{3x^2} = -4x^5$$

$$f. \frac{45a^7b^3}{-5a^4b} = -9a^3b^2$$

$$g. \frac{24y^8}{4y^4} = 6y^4$$

$$h. \frac{10m^8n^3}{2m^7} = 5mn^3$$

2. Directions: Simplify each expression:

$$a. \frac{2yx^3}{(2x^2)^3} = \frac{2yx^3}{8x^6} = \frac{\cancel{2} \cdot y \cdot \cancel{x} \cdot \cancel{x} \cdot \cancel{x}}{\cancel{2} \cdot \cancel{2} \cdot \cancel{2} \cdot \cancel{x} \cdot \cancel{x} \cdot \cancel{x} \cdot \cancel{x} \cdot \cancel{x} \cdot \cancel{x}} = \frac{y}{4x^3}$$

$$b. \frac{x^3y^2}{(2x^2y^3)^4} = \frac{x^3y^2}{16x^8y^{12}} = \frac{1}{16x^5y^{10}}$$

$$c. \left(\frac{2y^2}{xy^2}\right)^3 = \frac{2y^2}{xy^2} \cdot \frac{2y^2}{xy^2} \cdot \frac{2y^2}{xy^2} = \frac{8y^6}{x^3y^6} = \frac{8}{x^3}$$

$$d. \left(\frac{x^4y^4}{2yx^3}\right)^3 = \frac{x^4y^4}{2yx^3} \cdot \frac{x^4y^4}{2yx^3} \cdot \frac{x^4y^4}{2yx^3} = \frac{x^{12}y^{12}}{8y^3x^9} = \frac{x^3y^9}{8}$$

$$e. \frac{(3x^2y^3)^0}{4x^3y^0} = \frac{1}{4x^3}$$