

Homework - Pg. 472

- 30. 343
- 31. $\frac{y^{25}}{x^{10}}$
- 32. $\frac{2}{w^7}$
- 33. $\frac{196}{9x^2}$
- 34. x
- 35. $2d^2$
- 36. $\frac{x^3y^3}{a^2b^3}$
- 37. $\frac{3x^2}{4}$
- 51. 3
- 52. 3
- 53. $3:4$

WORDS	NUMBERS	ALGEBRA
A quotient raised to a negative power equals the reciprocal of the quotient raised to the opposite (positive) power.	$(\frac{2}{3})^{-4} = (\frac{3}{2})^4 = \frac{3^4}{2^4}$	If a and b are nonzero real numbers and n is a positive integer, then $(\frac{a}{b})^{-n} = (\frac{b}{a})^n = \frac{b^n}{a^n}$.

$$\left(\frac{a^3}{b^5}\right)^{-2} = \frac{a^{-6}}{b^{-10}} = \frac{b^{10}}{a^6}$$

$$\left(\frac{a^3}{b^5}\right)^{-2} = \left(\frac{b^5}{a^3}\right)^2 = \frac{b^{10}}{a^6}$$

* you can flip fraction and make the outside exp. pos.
(Simp. inside first)

Example 5A: Finding Negative Powers of Quotients

Check It Out! Example 5a

Simplify.

$$\left(\frac{3}{4}\right)^{-3}$$

$$\left(\frac{2x^2}{y^3}\right)^{-2}$$

Simplify.

$$\left(\frac{4}{3^2}\right)^{-3}$$

$$\left(\frac{2a}{b^2c^3}\right)^{-4}$$

$$\left(\frac{2}{3}\right)^{-2} \left(\frac{6m}{2n}\right)^{-3}$$

$$\left(\frac{s}{3}\right)^{-2} \left(\frac{9s^2}{t}\right)^{-1}$$

$$\frac{9}{4} \cdot \frac{8n^3}{2(6m)^3}$$

$$\frac{72n^3}{864m^3}$$

$$\left(\frac{3^2}{5^2}\right) \left(\frac{t}{9s^2}\right) = \frac{t}{5^4}$$

$$\left(\frac{b^2c^3}{2a}\right)^4 = \frac{b^8c^{12}}{2^4a^4}$$

$$\frac{b^8c^{12}}{16a^4}$$

$$\frac{8n^3}{96m^3} = \frac{1n^3}{12m^3}$$

Lesson Quiz: Part I

Daily Practice

Simplify.

1. $\frac{4^8}{4^5}$

2. $\frac{x^5y^2}{(xy)^3}$

3. $\left(\frac{2xy^2}{x^2y}\right)^3$

4. $\left(\frac{4m}{n^3}\right)^{-2}$

5. $\left(\frac{3}{c}\right)^2 \left(\frac{9d^2}{2c}\right)^{-3}$

Dividing Exponents WS

$$\left(\frac{a^{-3}b^5}{b^{-2}}\right)^{-4} = \left(\frac{b^7}{a^3}\right)^{-4} = \left(\frac{a^3}{b^7}\right)^4 = \frac{a^{12}}{b^{28}}$$