

Intermediate Algebra

5-1

(Day 2)

Laws of Exponents

- 1) When multiplying, add the powers.
- 2) When dividing, subtract the powers.
- 3) When the power is outside the parentheses, multiply the powers.
- 4) A negative power means reciprocal.
↳ one over

Simplify.

$$72) \frac{(-4x^2y^3)^2}{(2xy^2)^3}$$

$$\frac{16x^4y^6}{8x^3y^6}$$

$$= \frac{2x}{1}$$

$$84) \frac{a^{3n-2}b^{n+1}}{a^{2n+1}b^{2n+2}}$$

$$\frac{a^{3n-2-(2n+1)}}{b^{2n+2-(n+1)}}$$

$$\frac{a^{3n-2-2n-1}}{b^{2n+2-n-1}}$$

$$= \frac{a^{n-3}}{b^{n+1}}$$

Simplify.

$$86) \left(\frac{4^2xy^3}{x^3y}\right)\left(\frac{8^2x^2y}{x^2y^2}\right)^2$$

$$\frac{4^{-6}x^3y^3}{x^3y^3} \cdot \frac{8^2x^4y}{x^8y^2}$$

$$\frac{x^3x^3}{4^6y^3y^3} \cdot \frac{8^2x^4x^8}{y^2y^2}$$

$$\frac{64x^{18}}{16 \cdot 16y^{16}} = \frac{x^{18}}{64y^{16}}$$

Write in scientific notation.

$$90) \frac{0.0000000524}{5.24 \times 10^{-8}}$$

Write in decimal notation.

$$100) 4.35 \times 10^9$$

$$4350000000$$

$$112) \frac{(6.9 \times 10^{27})(8.21 \times 10^{13})}{4.1 \times 10^{15}}$$

$$\approx 14$$

$$\frac{1}{3} \cdot \frac{3}{4} = \frac{9x}{9}$$

$$\frac{1}{12} = x$$

$$\frac{3}{9}$$

$$\frac{75}{9} = \frac{75 \cdot 15}{900 \cdot 15}$$

$$\frac{3}{36} = \frac{1}{12}$$

Assignment:

pg 250

67-113 odd