10.3

Quotient of Powers Property

8-2 Exponent Properties with Quotients

Example 1

$$\frac{x^5}{x^3}$$

Example 2

$$\frac{n^7}{n^3}$$

The Quotient of Powers Property:

_____base & _____ the exponents.

Practice

Simplify

1) $\frac{x^9}{x^5}$

2) $\frac{x^8}{x^3}$

3) $\frac{x^{16}}{x^9}$

4) $\frac{x^{17}}{x^8}$

5) $\frac{8^{10}}{8^4}$

6) $\frac{4^7}{4^6}$

Practice

Simplify

7) $\dfrac{x^{24}}{x^{16}}$

8) $\dfrac{1}{(-5)^4} \bullet (-5)^{11}$

9) $\dfrac{x^3 y}{x^2}$

10) $\dfrac{3^4 \bullet 3^2}{3^3}$

11) $\dfrac{5^6 \bullet 5^2}{5^4}$

12) $\frac{z^6}{z^2} \bullet \frac{z^8}{z^5}$

13) $\frac{a^{10}}{a^6} \bullet \frac{a^7}{a^4}$

14) $\frac{d^5}{d} \bullet \frac{d^9}{d^8}$

15) $\frac{2^{15}}{2^3 \bullet 2^5}$

Solve for the missing exponent...

16) $\frac{12^{9}}{12^{?}} = 12^{5}$