7-4.notebook March 13, 2014

## Section 7-4 Division Properties of Exponents

Students will be able to:
-divide powers with the same base
-raise a quotient to a power

Aug 18-2:52 PM Aug 18-2:52 PM

What is the general rule dividing powers with the same base?

Subtract exponets when dividing bases

Simplify:

$$\frac{X^5}{X^2}$$
  $X^{5-2} = X^3$ 

$$\frac{r^{\frac{6}{6}}}{r^{\frac{1}{6}}} r^{\frac{5}{6}-\frac{1}{6}} = r^{\frac{4}{6}} = r^{\frac{2}{3}}$$

Aug 18-2:52 PM Aug 18-2:52 PM

Simplify:

$$\frac{t^{\frac{7}{2}}}{t^3} + \frac{7}{2} - 3 = t^{\frac{7}{2} - \frac{6}{2}} = t^{\frac{1}{2}}$$

$$\frac{x^2y^5}{xy^7} = \chi^{2-1}y^{5-7} = \chi^1y^{-2} = \frac{\chi}{y^2}$$

Dividing numbers in scientific notation:

During one year, Honduras had a population of 7.33 x 10<sup>6</sup> people. The area of Honduras is 4.33 x 10<sup>4</sup> mi<sup>2</sup>. What was the population density of Honduras that year?

$$\frac{7.33 \times 10^6}{4.33 \times 10^4} = 1.692 \times 10^2$$

7-4.notebook March 13, 2014

When raising a quotient to a power, you must raise all parts of the numerator and denominator to the power and then simplify.

$$\left(\frac{a}{b^2}\right)^2 = \frac{a^2}{b^4}$$

Aug 18-2:52 PM

Simplify:

$$\left(\frac{2}{7}\right)^3 = \frac{7}{343}$$

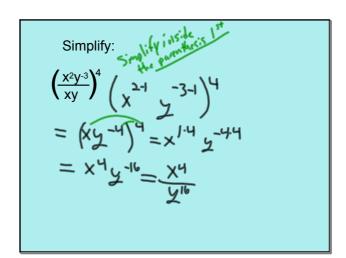
$$\left(\frac{X^2}{y^3}\right)^5 = \frac{X^{2\cdot 5}}{y^{3\cdot 5}} = \frac{X^{10}}{X^{15}}$$

Aug 18-2:52 PM

Simplify:

$$\frac{\left(\frac{z_{\frac{3}{4}}}{4}\right)^{3}}{\frac{2^{3}}{4}} = \frac{2^{3}}{\sqrt{4}} = \frac{2^{3}}{\sqrt{4}}$$

Aug 18-2:52 PM



Aug 18-2:52 PM

Simplify:

Hwk: pg. 442-445 #8 - 48 (4th), 50 - 54 (evens) 60 - 66 (evens), 70 - 78 (evens) 83, 88

Aug 18-2:52 PM Aug 18-2:52 PM

2

7-4cont.notebook