

Unit 6 Day 3

QUOTIENT PROPERTY OF EXPONENTS HOMEWORK

Directions: Simplify the following. You may leave the coefficients simplified (write your final answer as a product of exponents).

$$1. \frac{3^4}{3^2} = 3^2 = 9$$

$$2. \frac{(-7)^6}{(-7)^7} = \frac{1}{(-7)^1} = \frac{1}{-7}$$

$$3. \frac{x^{10}y}{x^5y^6} = \frac{x^5}{y^5}$$

$$4. \frac{3x^{11}}{12x^7} = \frac{x^4}{4}$$

$$5. \frac{14x^6y^2}{-x^5y^2} = -14x$$

$$6. \frac{-15x^{12}y^3}{25y^8x^9} = \frac{-3x^3}{5y^5}$$

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$$6. \frac{-15x^{12}y^3}{25y^8x^9}$$

$$7. \frac{x^9}{x^4} \cdot x = x^5 \cdot x = x^6$$

$$8. \frac{x^5 \cdot x^2}{x^7} = \frac{x^7}{x^7} = 1$$

$$9. \frac{(xy^3)^4}{x^2y^5} = \frac{x^4y^{12}}{x^2y^5} = x^2y^7$$

$$10. \frac{2x}{(-x^3)^3} = \frac{2x}{-x^9} = -\frac{2}{x^8}$$

11. CONGRATS! You are the new teacher for your Foundations of Algebra class. Come up with ONE problem where your students will have to simplify using the quotient property of exponents! Try to make it challenging 😊

Be creative 😊

$$7. \frac{x^9}{x^4} \cdot x$$

$$8. \frac{x^5 \cdot x^2}{x^7}$$

$$9. \frac{(xy^3)^4}{x^2y^5}$$

$$10. \frac{2x}{(-x^3)^3}$$

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