Math Virtual Learning

Algebra 2/Honors Algebra 2

April 17, 2020

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Lesson: April 17, 2020

Objective/Learning Target:
Students will be able to simplify expressions using all 5 rules of exponents.

Let's Get Started:
Get out a sheet of paper and simplify the expression

$$\frac{8a^6 d^{-5} (b^3)^2 c^0}{12ab^{12} c^7 d^{-2}}$$

Click here to check your answer and make sure that you got it right!

Watch Video:
On the same sheet of paper, watch the video for Exponent Rules and take notes

Let's Review:
Please go back and re-watch any of the videos and take a look back at the teacher notes

Videos:
- Zero & Negative Exponents
- Multiplication Rule
- Division Rule
- Power to Power Rule

Teacher Notes:
- Zero & Negative Exponents
- Multiplication Rule
- Division Rule
- Power to Power Rule

Multiplication Rule	$a^x \times a^y = a^{x+y}$
Division Rule	$a^x \div a^y = a^{x-y}$
Power of a Power Rule	$\left(a^x\right)^y = a^{xy}$
Power of a Product Rule	$(ab)^x = a^x b^x$
Power of a Fraction Rule	$\left(\dfrac{a}{b}\right)^x = \dfrac{a^x}{b^x}$
Zero Exponent	$a^0 = 1$
Negative Exponent	$a^{-x} = \dfrac{1}{a^x}$

Exponent Rules Practice:
On a sheet of paper, practice the following problems

2) $(2a^2b)(4ab^2)$ 3) $(6x^2)(-3x^5)$

8) $(6x^4y^6)^3$ 9) $(4x^3y^3)^3$

14) $\dfrac{-48c^2d^4}{-8cd}$ 15) $\dfrac{22y^6z^8}{2yz^{-7}}$

20) 7^0

Exponent Rules Practice Answer Key:
Once you have completed the problems, check your answers here

2. $8a^3b^3$

3. $-18x^7$

8. $216x^{12}y^{18}$

9. $64x^9y^9$

14. $6cd^3$

15. $11y^5z^{15}$

20. 1

Exponent Rules Additional Practice:
Click on the links below to get additional practice and to check your understanding.

Exponent Rules & Practice (includes examples, practice problems & answer key)

Properties of Exponents Practice Worksheet & Answer Key