



Aledo Independent School District

GRADES 6-12 DISTANCE LEARNING

School Name	Aledo High School
Grade Level	9-12
Week of	3/30/20 *All assigned work due by Sunday at midnight

(SUBJECT AREA)

Week at a Glance

Objectives for the Week (TEKS):

8.1.5 Use the laws of exponents for integer exponents

Lesson Frame:

We Will: successfully use and identify the laws of exponents

I Will: Apply the laws of exponents to perform operations with numerical expressions

So That I Can: have an understanding of exponential growth

Estimated Time to Complete: 2 hours

Resources Needed: google classroom, webex

Non-Digital Resources:

paper , pencil, calculator

Lesson Delivery (What do we want you to learn?):

We will learn the various properties of exponents for addition, multiplication and division
Completed notes are in google classroom. A webex will be offered to assist one on one and understanding.

Engage and Practice (What do we want you to do?):

There is a math practice worksheet attached. Also please write a paragraph describing something that you have learned shows exponential growth. Example - what about the growth of the Carona Virus??

Create and Submit (What do we want you to turn in?):

worksheet attached

paragraph explaining exponential growth

Optional Extension Opportunity (What do we want you to do if you want to extend your learning?):

Print out for student:



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Rules of Exponents – part 1

Vocabulary:

Base: the number being multiplied

Exponent: the many times you multiply the base number

Examples: 25^2 5^4 x^2

5^2

** 5 is the Base and 2 is the EXPONENT

THIS IS COMPUTED BY MULTIPLYING THE BASE (5) TIMES ITSELF SO –

$5 \times 5 = 25$

RULES OF EXPONENTS:

Product of Powers: $a^m \times a^n = a^{m+n}$

Remember that the product is the answer when you multiple two numbers together. Like $5 \times 2 = 10$. 10 is the product.

If multiplying two numbers with the same base, ADD the exponents.

Practice:

$$5^2 \times 5^6 = \underline{\underline{5^8}}$$

$$y^4 \times y^3 = \underline{\hspace{2cm}}$$

$$3^2 \times 3^3 = \underline{\hspace{2cm}}$$

$$x^5 + x^2 = \underline{\hspace{2cm}}$$

Quotient of Powers:

Remember what a quotient is?

It is the answer you get when you divide one number by another number.

$$8 / 2 = 4 \quad * \text{ so 4 is the } \mathbf{quotient}$$

If dividing two numbers with the same base, SUBTRACT the exponents.

Examples:

$$y^6 / y^2 = y^4 \underline{\hspace{1cm}}$$

$$6^{10} / 6^2 = \underline{\hspace{1cm}}$$

$$A^7 / A^2 = \underline{\hspace{1cm}}$$

$$b^4 / b^1 = \underline{\hspace{1cm}}$$

Rule for Power of a Power:

Power of a Power: $(a^m)^n = a^{m \times n}$

If raising a power to a power, MULTIPLY the exponents.

Examples:

$$(x^2)^3 = x^6 \underline{\hspace{1cm}}$$

$$(4^2)^3 = \underline{\hspace{1cm}}$$

$$(y^2)^5 = \underline{\hspace{1cm}}$$

$$(6^2)^5 = \underline{\hspace{1cm}}$$

Just one more for this week!

Zero Exponent: $a^0 = 1$

ANY NUMBER RAISED TO THE 0 POWER IS ALWAYS 1!!!!

Example:

$$7^0 = 1$$

$$1000^0 = 1$$

$$1,966,206^0 = 1$$

Homework that is due on Sunday!

You can write these down, print them, take a picture of them and email them to me – however you want!

If you have a computer you can turn them in on google classroom.

Just email me or message me and we will work this out together.

Homework

1. Anything to the 0 power is _____.
2. If multiplying two numbers with the same base you ____ the exponents.
3. If you divide two numbers with the same base, you _____ the exponents.
4. If raising a power to a power, _____ the exponents.

Word Bank

1 multiply add subtract

5. $7^2 \times 7^3 =$ _____

6. $Y^2 \times Y^3 =$ _____

7. $y^5 / y^2 =$ _____

8. $8^6 / 8^4 =$ _____

9. $(9^5)^2 =$ _____

10. $(8^5)^3 =$ _____

If you have any questions or need any help just let me know. I will be available during the school day from 9-4 – or if you need me at another time just let me know as well. We will work it out.

I am going to schedule webex meetings daily – to help face to face if you are needing more instruction.

Please try to click in on the webex meetings daily if you can!

Mrs. Loftin