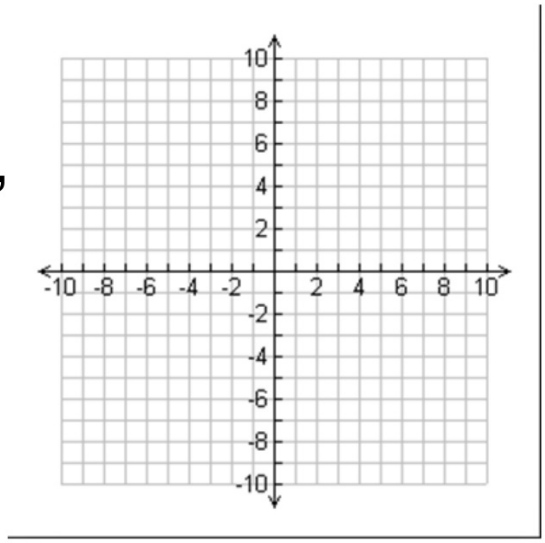
Bellwork

Graph the given points and classify the model as linear, exponential, or quadratic.

(-8, -9), (-7, -4), (-4, -2)
(-1, -1), (2, 0), (3, -0.5),
(4, 0.5)



Creating Exponential Equations

Overview:

Given two points and the knowledge that something is represented by an Exponential model you will be able to find the equation that contains those given points.

Method Used:

For solving these systems we will utilize the method of elimination.

Vital Information

Be able to recall all the Properties of Exponents:

1. Zero Exponent
2. Multiplying like bases
3. Dividing like bases
4. Power of a power
5. Product of a power
6. Quotient of a power
7. Negative Exponents

Creating Exponential Equations

Procedure:

Step 1: Using the points, write an equation for each.
The general equation is: $y = ab^x$
Step 2: Identify the equation with the smallest exponent on the b term.
Step 3: Divide the two equations placing the one identified in step 2 in the denominator.
Step 4: Simplify and solve for b.
Step 5: Plug into one of the original equations and solve for a.
Step 6: Write the equation filling in for the a and b values.

Example

Find the EXPONENTIAL equation of the line that best describes the provided information.

1. $(-6, 192)$ & $(2, \frac{3}{4})$

Example

Find the EXPONENTIAL equation of the line that best describes the provided information.

1. (5, 768) & (8, 49152)