Name\_\_\_\_\_

Date\_\_\_\_\_

## Unit 3: Exponential, Log, and Power Functions

Advanced Algebra

## Inverse of Functions- Assignment #7

I can find the inverse of a function. I can put functions in context.

Note: To find an inverse of a function you 1) Switch the x and y variables 2) Solve for y

Example: Given y = 3x + 2 Find the Inverse of the function

Use your calculator to fill in the table

f<sup>-1</sup>(x) This is notation for Inverse

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x y 0 1 2 3

F(x)

What do you notice about the table values?\_\_\_\_\_

So you can build an Inverse by switching the ordered pairs (x,y) to (y,x)

Now we will take 10 minutes to put an Inverse in context.....

**Context:** Write a scenario as to what the function y = 3x + 2 could represent. Be specific. Say exactly what the input could represent in real life. What would the 2 represent? What would the value of y represent. Be specific.

Write what the Inverse of the given function would represent. Again be specific. What would the input be and what would the output be.

Now you write a linear function in the form y = mx+b. Put your function in context. Some ideas from previous units involved money. Imagine you are saving for something big. This could be one idea.

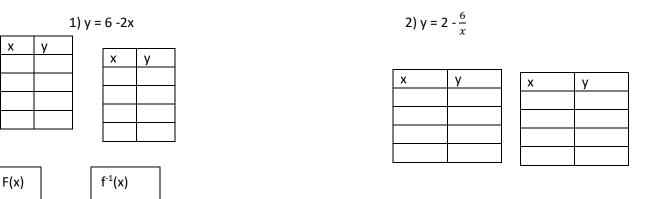
My function is \_\_\_\_\_

It represents\_\_\_\_\_

My Inverse of my function is \_\_\_\_\_

It would represent \_\_\_\_\_

Class Practice: Find the inverse of the following linear equations. Use your calculator to show the tables are reversed. Copy 4 entries for each problem.



3	) v	=	-6	(x-2)
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4) y = 
$$\frac{-6}{x-2}$$

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To do now in class: Find the inverse of the following functions.

1) 
$$y = 2x-3$$
 2)  $3x + 2y = 4$ 

3) 
$$x^2 + 2y = 3$$
 4)  $y = 6 + \frac{2}{x}$ 

Use a composition of functions strategy or making two tables to verify if the following functions are inverses of each other.

5) 
$$f(x) = 4x-6$$
 and  $g(x) = \frac{(x-6)}{4}$ 

6) 
$$f(x) = 3x^2 + 2$$
 and  $g(x) = \sqrt{\frac{(x-2)}{3}}$