November 8, 2017

Warm Up

Can you solve the following for x?

1. $x^5 = 50$

2. $4x^7 - 6 = -2$

3. $(27x^6)^{2/3} = 576$

Notes: (if you want to title today, call it Inverses)

Take a look at the following functions:

$$f(x) = 2x + 1 \qquad g(x) = \frac{(x-1)}{2}$$

1. What is f(g(3))?

2. What is f(g(10))?

3. What is f(g(x))?

graph both f(x) and g(x) using your calculator

Take a look at the following functions:

$$f(x) = 3x^2 \qquad g(x) = \sqrt{\frac{x}{3}}$$

1. What is f(g(5))?

2. What is f(g(1))?

3. What is f(g(x))?

*graph both f(x) and g(x) using your calculator

Take a look at the following functions

$f(x) = 10(x-6)^2 + 1$

$g(x) = \sqrt{\frac{x-1}{10}} + 6$

What is f (g (6))?

What is f (g (8))?

What is f(g(x))?

*graph both f(x) and g(x) using your calculator

What we have seen is called an **inverse**.

You get the inverse of a relation by exchanging the x and y coordinates of all points or exchanging the x and y variables in an equation

We write:

$f^{-1}(x)$ to indicate an inverse
this is NOT f raised to the negative 1 power!

Example: Find the inverse of the function:

$$f(x) = 4 - 3x$$

Example 2:

Write the following in function notation and then find the inverse:

$$2x - 4y = 14$$

Homework: Page 269, problems 2, 4, 6, 8
Due 11/9/17

November 10, 2017

Instead of a warm up, take the first 15 minutes of class to finish what you need to on the 1st page of the Alice problem and then begin work (or continue work) on the second page. You will have an additional 15 - 20 minutes next week to finish

Take home quizes are due now, there will be a reduction of points on it after class begins

An exponential equation is any equation written in the form:

$$y = ab^x$$

Where a and b are constants and x and y are our variables

If we are given 2 points we can write the equation using substitution and solving

Suppose I tell you there is an exponental equation that passes through the points:
(2, 18) and (4,162)
find the equation

$y = ab^x$

$y = ab^x$

(3, 0.5) and (-3, 32)