Precalculus Honors

Inverse Functions Notes

Name: _____

Date: _____

Period:____

G___

Complete the missing representations below for the function and its inverse below.

Equations:

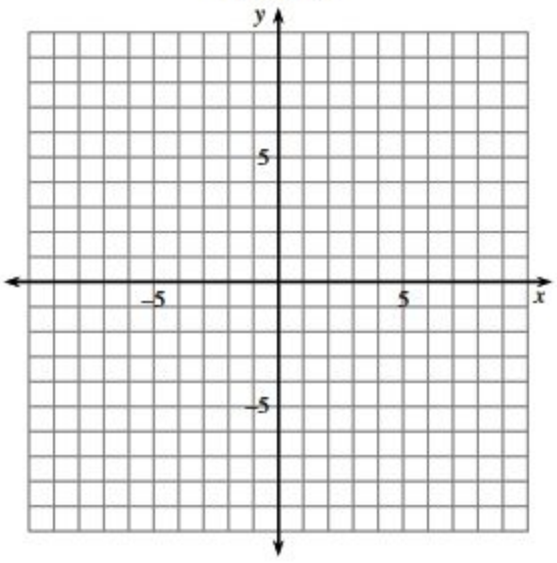
$f(x) = (x-2)^3 + 5$ inverse: _____

Tables:

x	y
−4	
−3	
−2	
−1	
0	
1	
2	
3	
4	

x	y

Graphs:



Describe the relationship between a function and its inverse for each of the representations.

Table **Equation** **Graph**

If the inverse of a function *f* is also a function, then *f* is **invertible** and its inverse is denoted by f^{-1}. (Note: $f^{-1}(x)$ *does not* mean $\frac{1}{f(x)}$) Is *f* invertible? If yes, explain why and write the inverse function using correct notation. If not, explain why not.

Name:_____

Inverse Function Notes

If you want to verify two functions *f* and *g* are inverses, you need to show that *f* and *g* undo one another. That is, you need to show that $f(g(x)) = x$ and $g(f(x)) = x$. Use composition to decide if each of the following pairs of functions are inverses.

a. $f(x) = 3x^2 - 4$
$g(x) = x\sqrt{3} + 4$

b. $f(x) = \sqrt{x} + 2$
$g(x) = x^2 - 4x + 4$

Write the equation of the inverse of each function below. Use correct notation in your answer.

a. $f(x) = 3x^3 - 5$

b. $h(x) = \frac{x+3}{2x-8}$