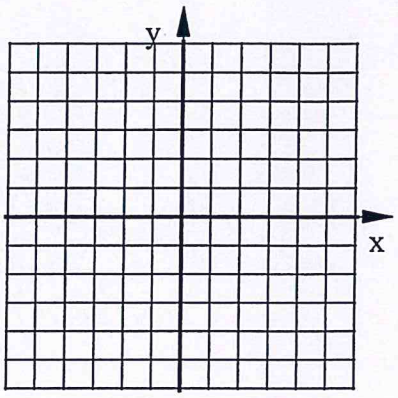
Bellwork Alg 2 Friday, September 27, 2019

Use this function: $f(x) = (x-1)^2 - 3$

1. Fill out this table of values, plot the points, connect them to form the graph of this quadratic.

X	Y
−2	
−1	
0	
1	
2	
3	
4	



2. State the Domain and Range of this function.

Domain: Range:

3. Make a table of values for the inverse, $f^{-1}(x)$. Then plot these values on the same graph as $f(x)$.

X	Y

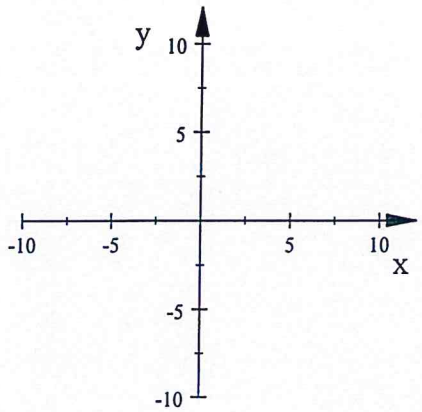
Is the inverse relation a function? Explain.

4. State the domain and range of the inverse: Domain: Range:

5. Write the equation of the inverse below by switching x and y then solving for y.

$f^{-1}(x) =$

6. Use a graphing calculator to graph the inverse in a Standard Window. Sketch the graph below:



State the Domain and Range of this graph:

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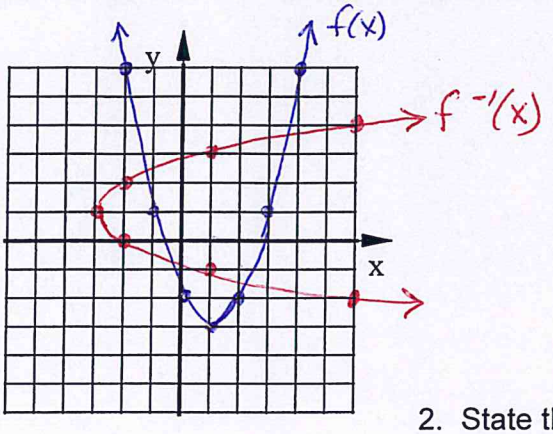
ANSWERS

Use this function: $f(x) = (x-1)^2 - 3$

1. Fill out this table of values, plot the points, connect them to form the graph of this quadratic.

X	Y
−2	6
−1	1
0	−2
1	−3
2	−2
3	1
4	6



2. State the Domain and Range of this function.

Domain: ALL REAL #'S $(-\infty, \infty)$ Range: $y \geq -3$ $[-3, \infty)$

3. Make a table of values for the inverse, $f^{-1}(x)$. Then plot these values on the same graph as $f(x)$.

X	Y
6	−2
1	−1
−2	0
−3	1
−2	2
1	3
6	4

Is the inverse relation a function? Explain.

NO. The graph of the inverse, $f^{-1}(x)$, doesn't pass the ~~horizontal line~~ Vertical Line Test

4. State the domain and range of the inverse: Domain: $x \geq -3$ $[-3, \infty)$ Range: ALL REAL #'S $(-\infty, \infty)$

5. Write the equation of the inverse below by switching x and y then solving for y.

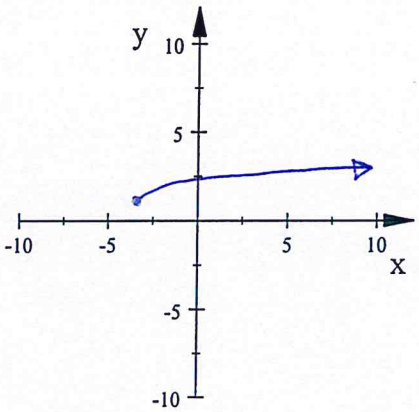
$f^{-1}(x) = \sqrt{x+3} + 1$

$x = (y-1)^2 - 3 \Rightarrow$ $\sqrt{x+3} = \sqrt{(y-1)^2}$

$\sqrt{x+3} = y - 1$

$+3$ $+3$ $+1$ $+1$

6. Use a graphing calculator to graph the inverse in a Standard Window. Sketch the graph below:



State the Domain and Range of this graph:

Domain: $x \geq -3$ $[-3, \infty)$

Range: $y \geq 1$ $[1, \infty)$