

Name: _____ Date: _____ Unit 9 Class Work

8. A. Use your knowledge of transformations to sketch the function $f(x) = -\sqrt{x+3} - 4$. Use a dotted curve.

reflect over x-axis → left 3 down 4

B. What is the domain and range of the function?

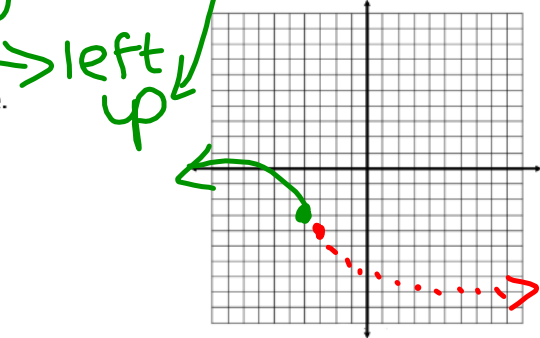
D: $[-3, \infty)$ R: $(-\infty, -4]$

C. What should the domain & range of the inverse of $f(x)$ be? Why?

D: $(-\infty, -4]$ R: $[-3, \infty)$
x y

D. Sketch $f^{-1}(x)$ using a solid curve.

9. A. Use your knowledge of transformations to sketch the function $g(x) = |x| - 3$. Use a dotted curve.



B. What is the domain and range of the function?

C. What should the domain & range of the inverse of $g(x)$ be? Why?

D. Sketch $g^{-1}(x)$ using a solid curve.

TRY SOME ON YOUR OWN: Determine the inverse of each situation below.

10. $3y + 7x = 10$

11. $f(x) = 2x^2 + 5$

Name: _____ Date: _____ Unit 9 Class Work

8. A. Use your knowledge of transformations to sketch the function $f(x) = -\sqrt{x+3} - 4$. Use a dotted curve.

B. What is the domain and range of the function?

C. What should the domain & range of the inverse of $f(x)$ be? Why?

D. Sketch $f^{-1}(x)$ using a solid curve.

9. A. Use your knowledge of transformations to sketch the function $g(x) = |x| - 3$. Use a dotted curve.

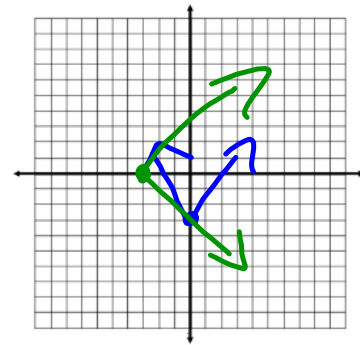
B. What is the domain and range of the function?

D: $(-\infty, \infty)$
R: $[-3, \infty)$

C. What should the domain & range of the inverse of $g(x)$ be? Why?

D: $[-3, \infty)$ right
R: $(-\infty, \infty)$ down; up forever

D. Sketch $g^{-1}(x)$ using a solid curve.



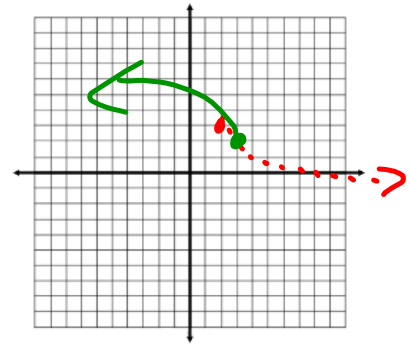
TRY SOME ON YOUR OWN: Determine the inverse of each situation below.

10. $3y + 7x = 10$

11. $f(x) = 2x^2 + 5$

Name: _____ Date: _____ Unit 9 Class Work

19. A. Use your knowledge of transformations to sketch the function $f(x) = -\sqrt{x-2} + 3$. Use a dotted curve.



B. What is the domain and range of the function?

$$D: [2, \infty) \quad R: (-\infty, 3]$$

C. What should the domain & range of the inverse of $f(x)$ be? Why?

$$D: (-\infty, 3] \quad R: [2, \infty)$$

left up

D. Sketch $f^{-1}(x)$ using a solid curve.

20. A. Use your knowledge of transformations to sketch the function $g(x) = |x| + 4$. Use a dotted curve.

B. What is the domain and range of the function?

C. What should the domain & range of the inverse of $g(x)$ be? Why?

D. Sketch $g^{-1}(x)$ using a solid curve.

HOMEWORK:

*Pace yourself over the two days appropriately. ☺

*Solutions are on the website.

Pages 404-406

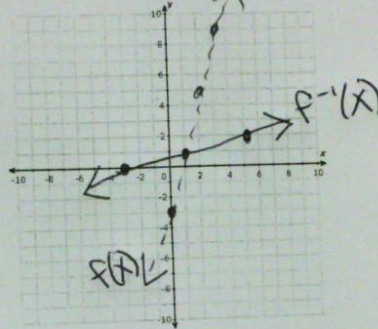
#1, 5, 9, 13, 15, 19, 20, 23, 25, 28, 29, 36, 38, 41, 42, 45, 46, 47, 56, and 60

Name: _____

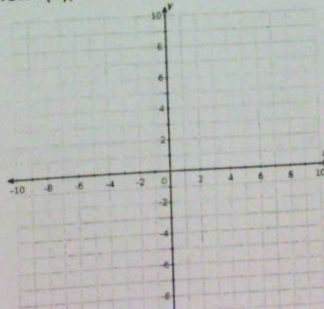
5. Graph $y = 4x - 3$ and its inverse on the grid below.
Label the original function $f(x)$, and the inverse function $f^{-1}(x)$.

$f(x)$
 y-int: $(0, -3)$
 $m = \frac{\text{rise}}{\text{run}} = \frac{4}{1}$

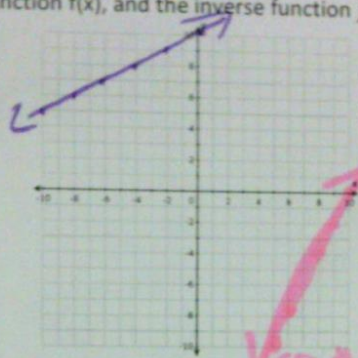
$f(x)$	\leftrightarrow	$f^{-1}(x)$
$(0, -3)$		$(-3, 0)$
$(1, 1)$		$(1, 1)$
$(2, 5)$		$(5, 2)$



6. Graph $y = \frac{1}{2}x + 10$ and its inverse on the grid below.
Label the original function $f(x)$, and the inverse function $f^{-1}(x)$.



6. Graph $y = \frac{1}{2}x + 10$ and its inverse on the grid below.
Label the original function $f(x)$, and the inverse function $f^{-1}(x)$.

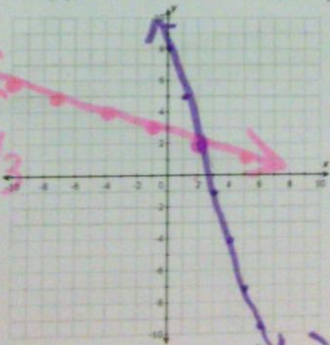


$f(x)$	$f^{-1}(x)$
$(-10, 5)$	$(5, -10)$
$(-8, 6)$	$(6, -8)$
$(-4, 8)$	$(8, -4)$
$(-2, 9)$	$(9, -2)$
$(0, 10)$	$(10, 0)$

$$x = \frac{1}{2}y + 10$$

$$y = 2x - 20$$

7. Graph $y = -3x + 8$ and its inverse on the grid below.
Label the original function $f(x)$, and the inverse function $f^{-1}(x)$.



$f(x)$	$f^{-1}(x)$
$(0, 8)$	$(8, 0)$
$(1, 5)$	$(5, 1)$
$(2, 2)$	$(2, 2)$
$(3, -1)$	$(-1, 3)$
$(4, -4)$	$(-4, 4)$
$(5, -7)$	$(-7, 5)$
$(6, -10)$	$(-10, 6)$

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

$$x = -3y + 8$$

$$y = -\frac{1}{3}x + \frac{8}{3}$$