

1. The given coordinates are on  $f(x)$ . Find the coordinates for  $f^{-1}(x)$ .

A. (3, -4)

B. (2, 3)

C. (-0.5, 7)

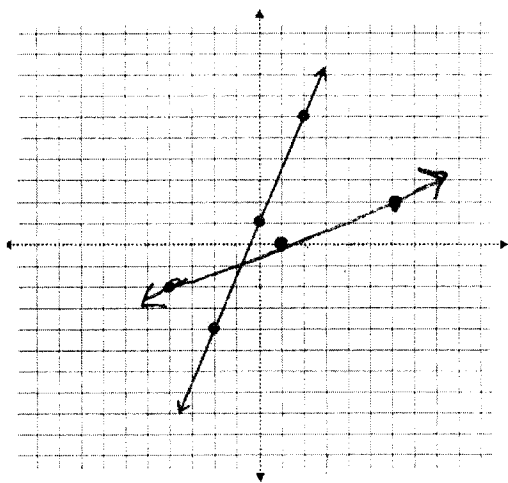
$(-4, 3)$

$(3, 2)$

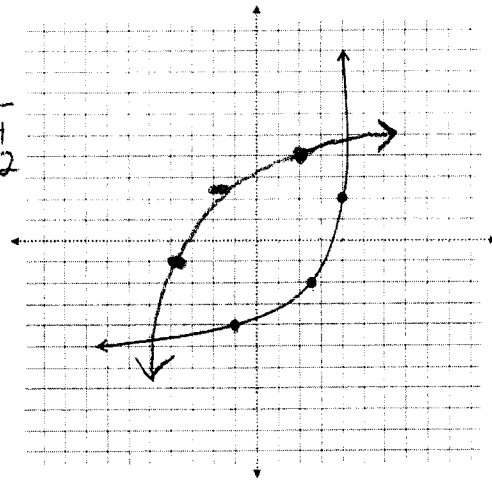
$(7, -0.5)$

2. Graph the inverse of each function.

A.



B.



$$\begin{array}{r} -2 \overline{) 4} \\ 0 \phantom{0} \\ \underline{2} \phantom{0} \\ 2 \phantom{0} \\ \underline{2} \phantom{0} \\ 0 \phantom{0} \end{array}$$

$$\begin{array}{r} -1 \overline{) -4} \\ 2.5 \phantom{0} \\ \underline{4} \phantom{0} \\ 2 \phantom{0} \end{array}$$

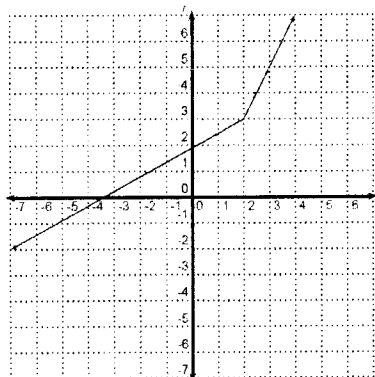
3. Show that  $f(x) = -5x - 11$  and  $g(x) = \frac{x+11}{-5}$  are inverses of one another.

$$f(g(x)) = -5\left(\frac{x+11}{-5}\right) - 11 = x + 11 - 11 = x$$

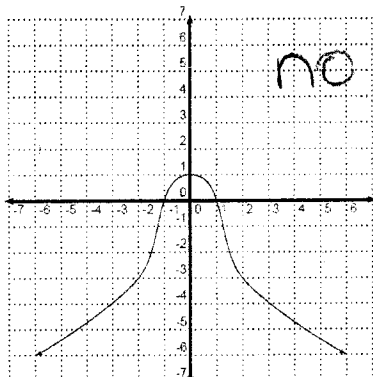
$$g(f(x)) = \frac{-5x - 11 + 11}{-5} = \frac{-5x}{-5} = x$$

4. Determine if each relation is one-to-one.

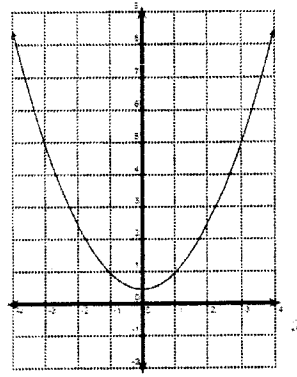
yes



no



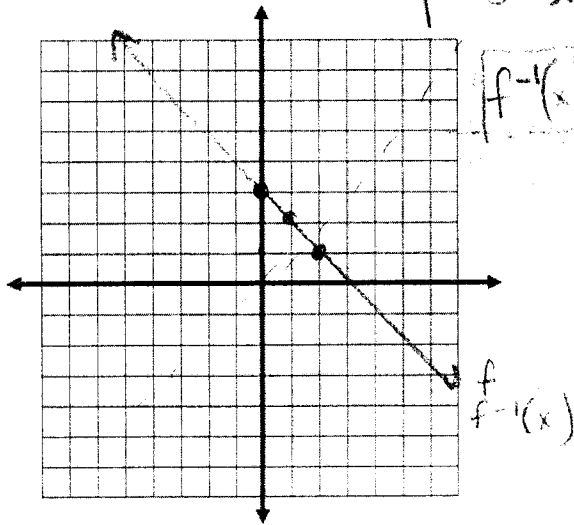
no



5. Find the inverse of each function. The graph both the given function and its inverse.

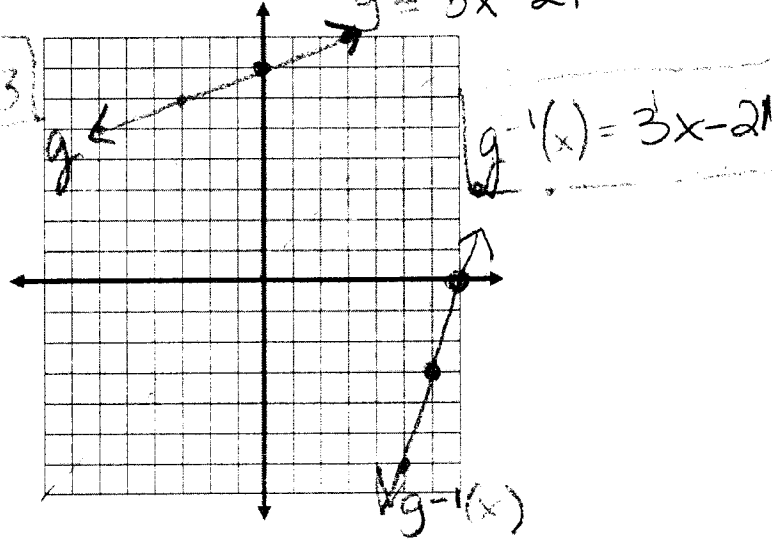
A.  $f(x) = 3 - x$

$x = 3 - y$   
 $y = 3 - x$



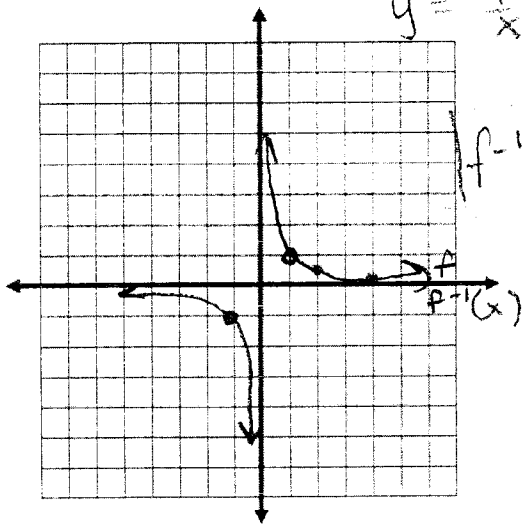
B.  $g(x) = \frac{1}{3}x + 7$

$x = \frac{1}{3}y + 7$   
 $x - 7 = \frac{1}{3}y$   
 $y = 3x - 21$



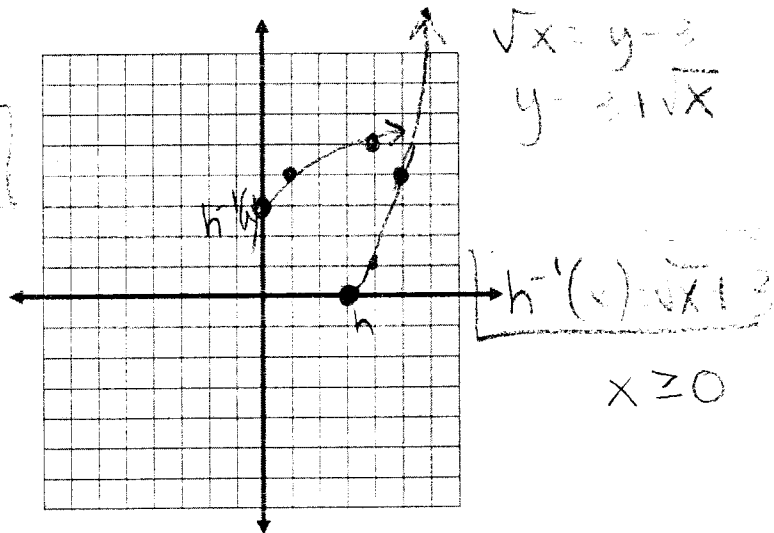
C.  $f(x) = \frac{1}{x}$

$x = \frac{1}{y}$   
 $y = \frac{1}{x}$



D.  $h(x) = (x - 3)^2, x \geq 3$

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



E.  $g(x) = \sqrt{x + 7}, x \geq -7$

$x = \sqrt{y + 7}$   
 $x^2 = y + 7$   
 $y = x^2 - 7$

