

## Inverses

Find the inverse of each of the functions given

1.  $f(x) = 3x + 2$        $f^{-1}(x) =$

2.  $f(x) = \frac{3x}{5}$        $f^{-1}(x) =$

3.  $f(x) = 6 - 4x$        $f^{-1}(x) =$

4.  $f(x) = x^2 + 5$        $f^{-1}(x) =$

## What is an inverse?

$f(x) = 3x + 2$        $g(x) = \frac{x-2}{3}$

## Graphs of functions and their inverse

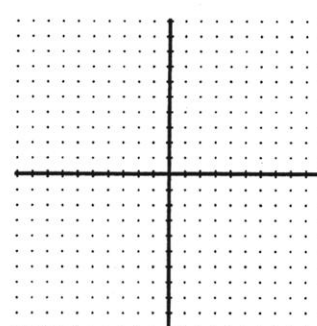
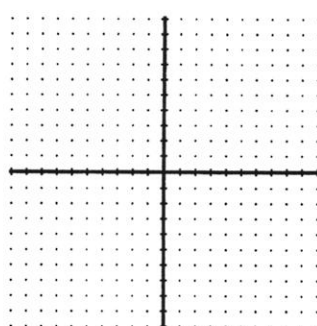
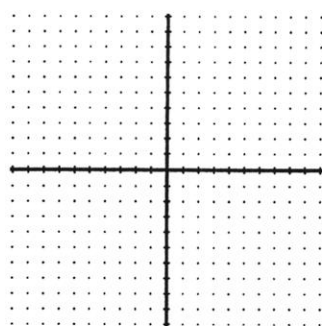
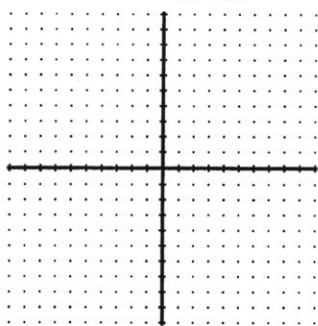
For each of the following, graph the function and its inverse on the same graph.

1.  $f(x) = 3x + 2$

2.  $f(x) = \frac{1}{2}x - 4$

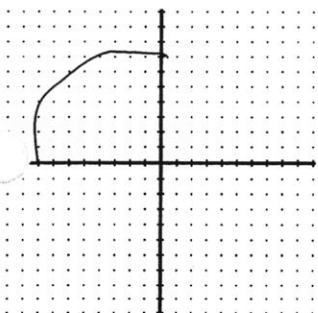
3.  $f(x) = 6x + 8$

4.  $f(x) = \frac{x-4}{3}$

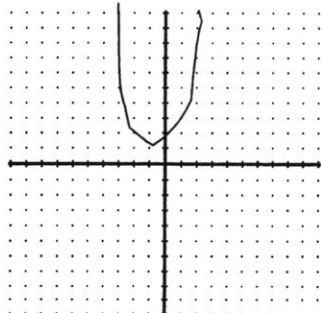


For each of the following sketch the inverse function on the same graph with the function shown

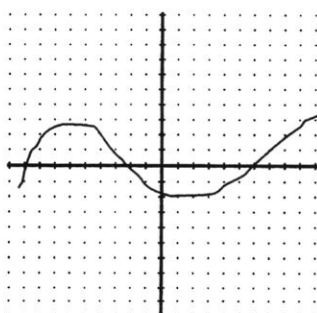
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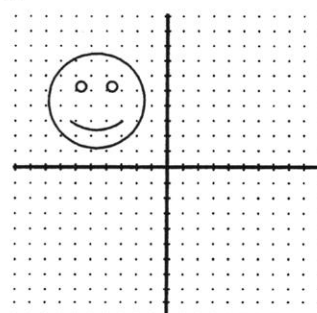
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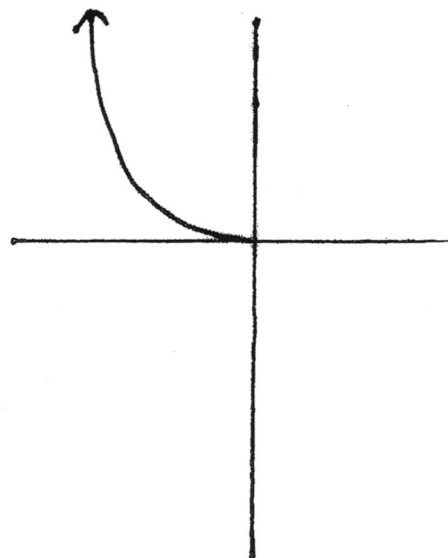
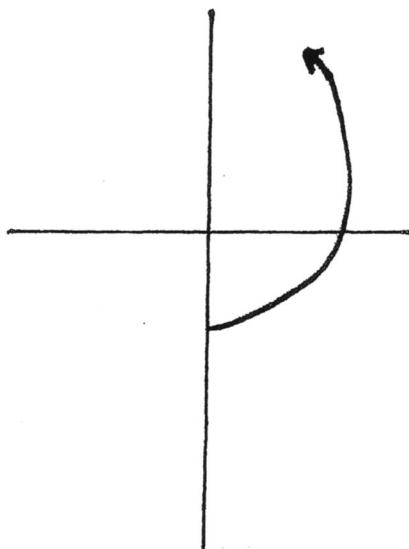
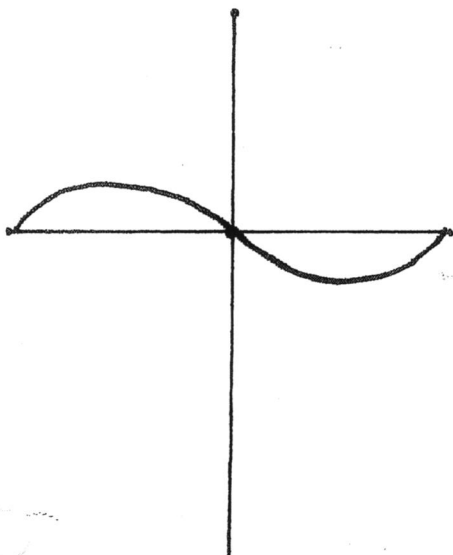
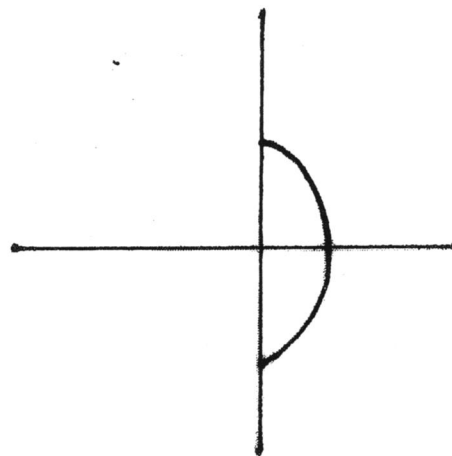
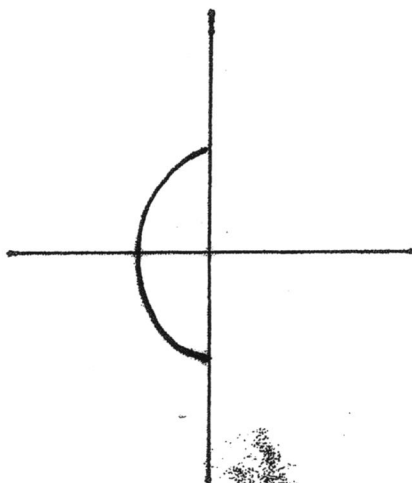
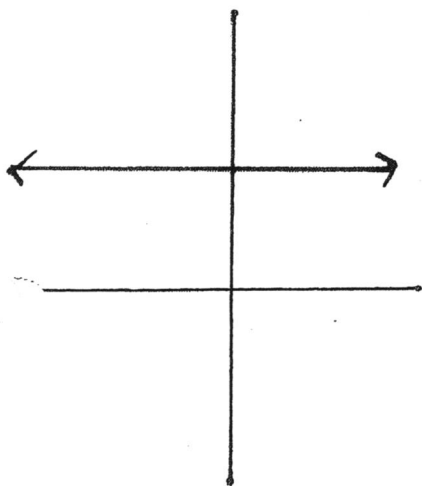
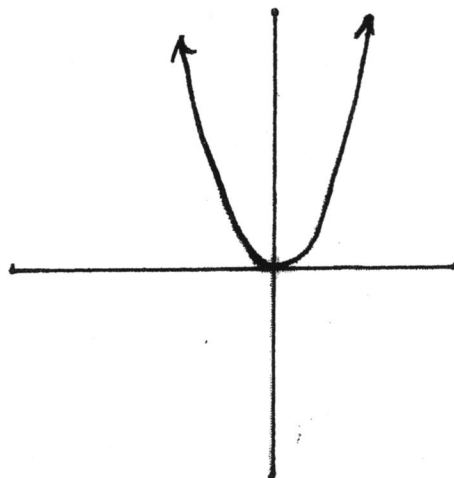
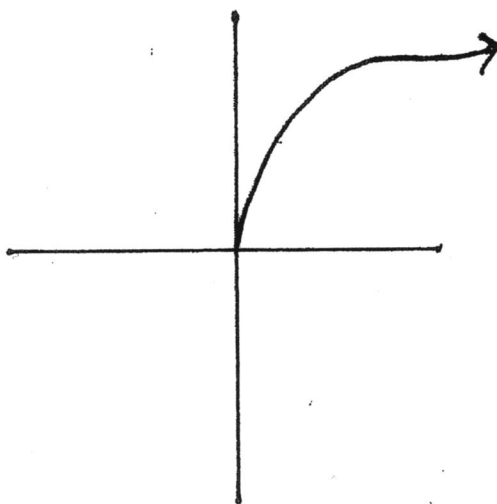
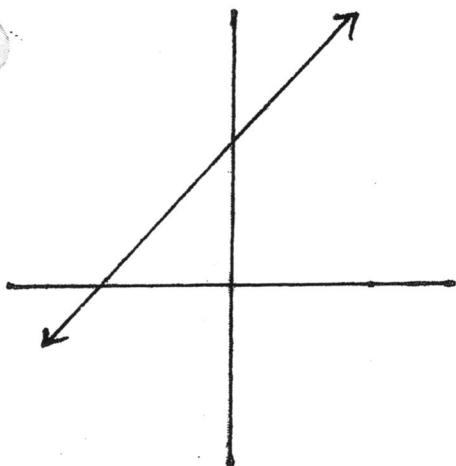
7.



8.



# SEE THE INVERSE, BE THE INVERSE

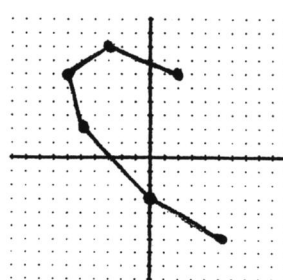
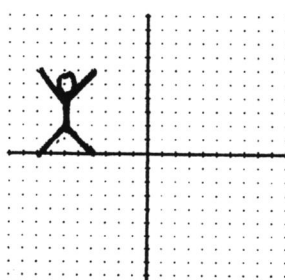
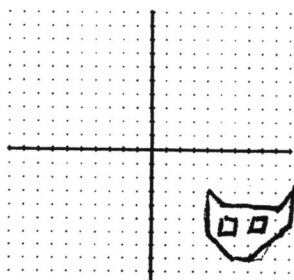
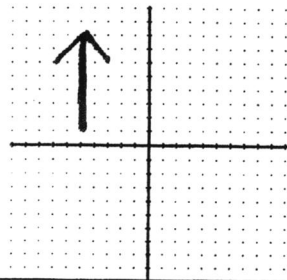


1. Find the inverse:  $f(x) = 3x - 5$

2.  $f(x) = 2x^{3/5} + 1$ ,  $f^{-1}(x) = ?$

3. Prove  $f(x) = 2x - 4$  and  $g(x) = \frac{1}{2}x + 2$  are inverses

4. Sketch the inverse:



Connect the following points

LINE 1

$(-10,5)$

$(-10,8)$

$(-9,7)$

$(-8,8)$

$(-8,5)$

Stop

LINE 2

$(-7,5)$

$(-6,8)$

$(-5,5)$

Stop

LINE 3

$(-3,5)$

$(-3,8)$

$(-4,8)$

$(-2,8)$

Stop

LINE 4

$(-1,5)$

$(-1,8)$

$(-1,7)$

$(1,7)$

$(1,8)$

$(1,5)$

