

## Section 5.2 Inverse Functions and Relations

I can explain what an inverse function is

I can find the inverse function to a set of ordered pairs.

I can find the inverse function when given a function  $f(x)$

I can determine whether a pair of functions are inverses of each other.

Just Remember This:

Find the inverse of each relation.

13-  $\{(1, -5), (2, 6), (3, -7), (4, 8), (5, -9)\}$

How to find the Inverse of a Function:

1-

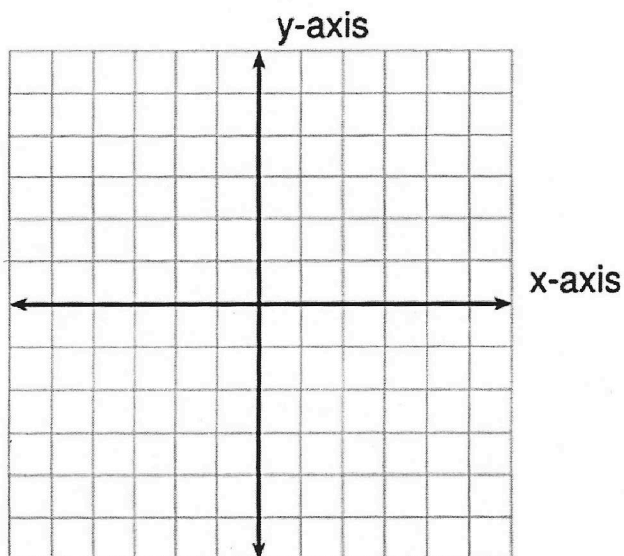
2-

3-

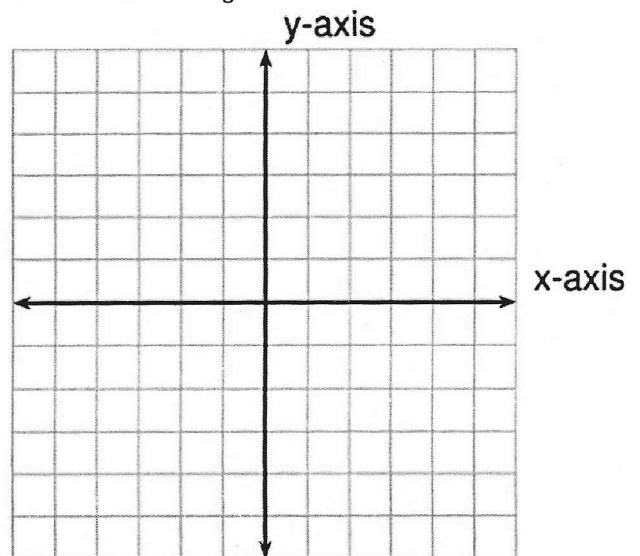
4-

Find the inverse of:

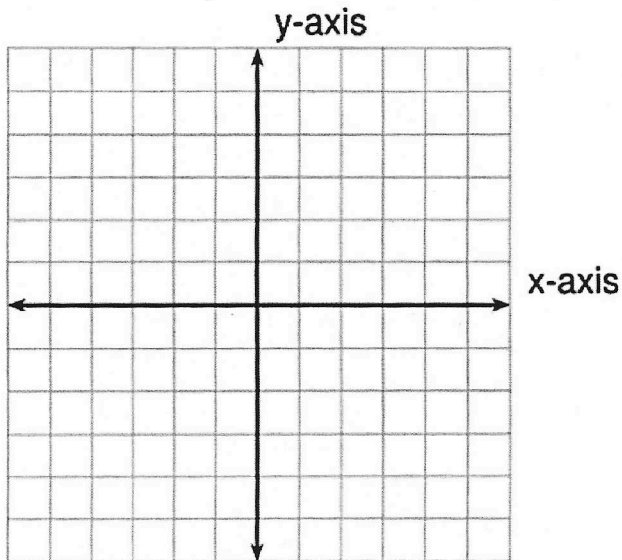
15.  $y = x + 2$  and graph it.



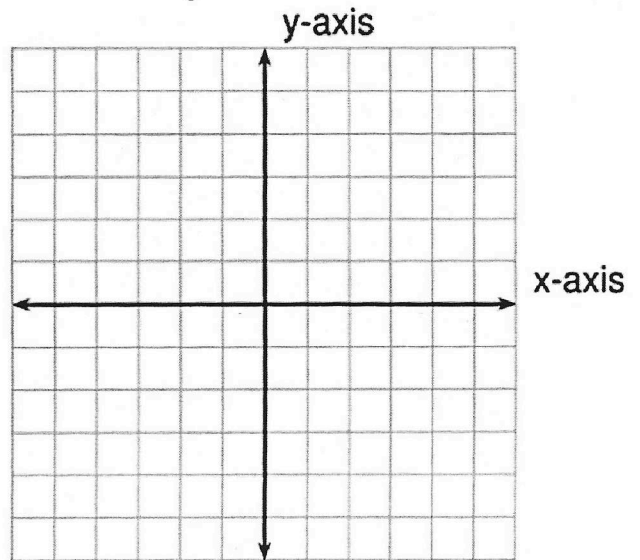
18.  $h(x) = \frac{x-4}{3}$  and graph it.



25.  $f(x) = \frac{1}{2}x^2 - 1$  and graph it.



\*19.  $y = -\frac{5}{3}x - 8$  and graph it.



**Proving that two functions are inverses:**

Are these inverse functions?

28.  $f(x) = 4x + 6$  and  $g(x) = \frac{x-6}{4}$

33.  $f(x) = 4x^2$  and  $g(x) = \frac{1}{2}\sqrt{x}$

\*29.  $f(x) = -\frac{1}{3}x + 3$  and  $g(x) = -3x + 9$

A function,  $f(x)$ ,  
If  $f(x)$

The Horizontal line test:

**Use the horizontal line test to determine whether the inverse of each function is also a function.**

42.  $f(x) = 2x^2$

43.  $f(x) = x^3 - 8$

44.  $g(x) = x^4 - 6x^2 + 1$