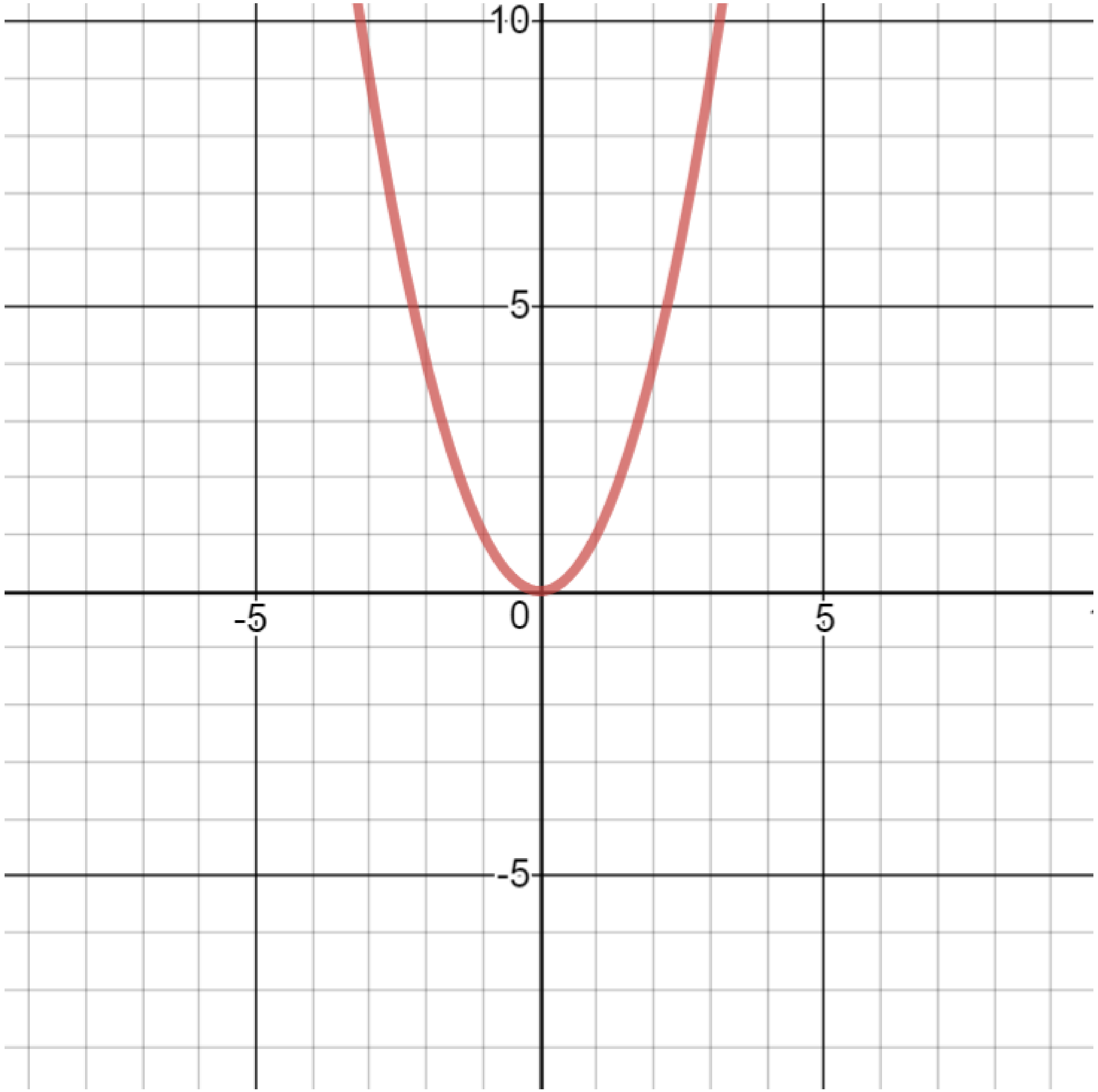
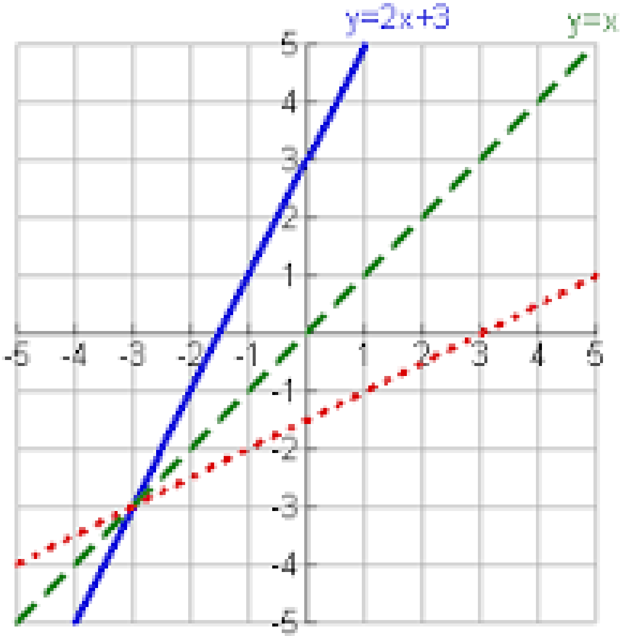
Warm-up:
Graph the function and its inverse

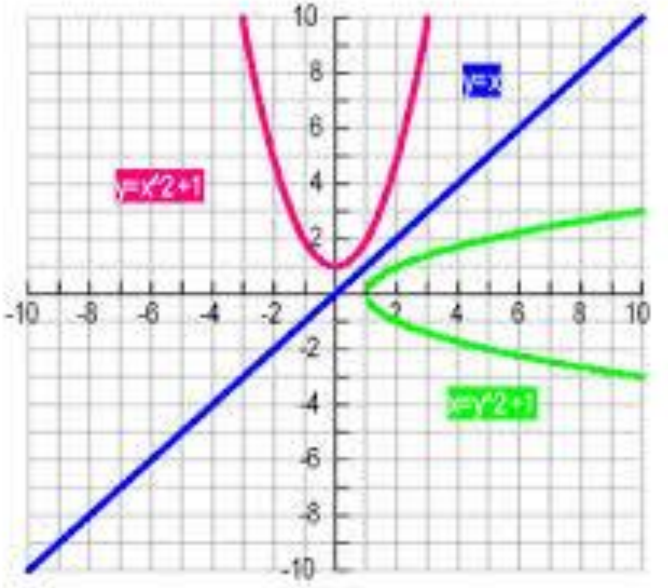




A function is a **one-to-one function** if both the function and its inverse are functions.

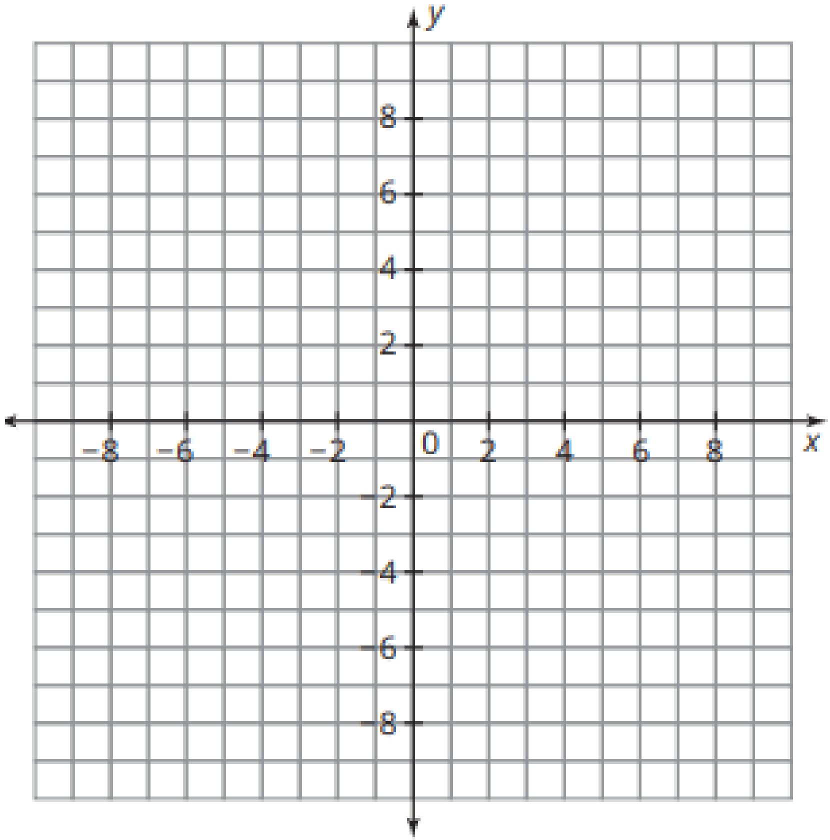
Remember:

Use a straightedge to draw your lines.



b. $g(x) = -x + 4$

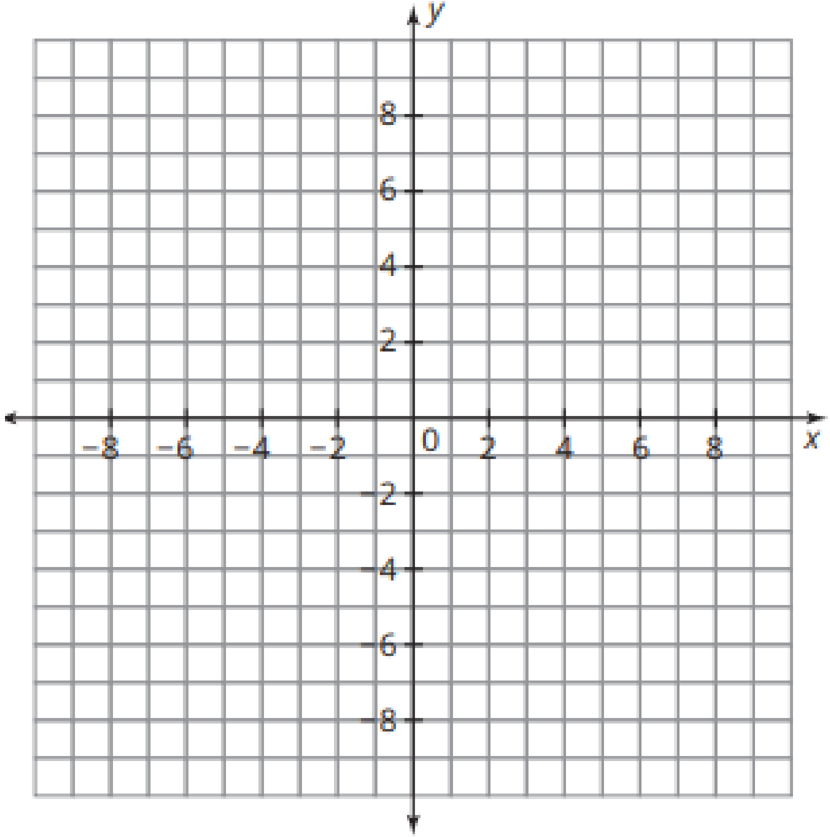
x	$g(x)$
−2	
−1	
0	
1	
2	



Inverse of $g(x)$	
x	y
	−2
	−1
	0
	1
	2

c. $h(x) = 2$

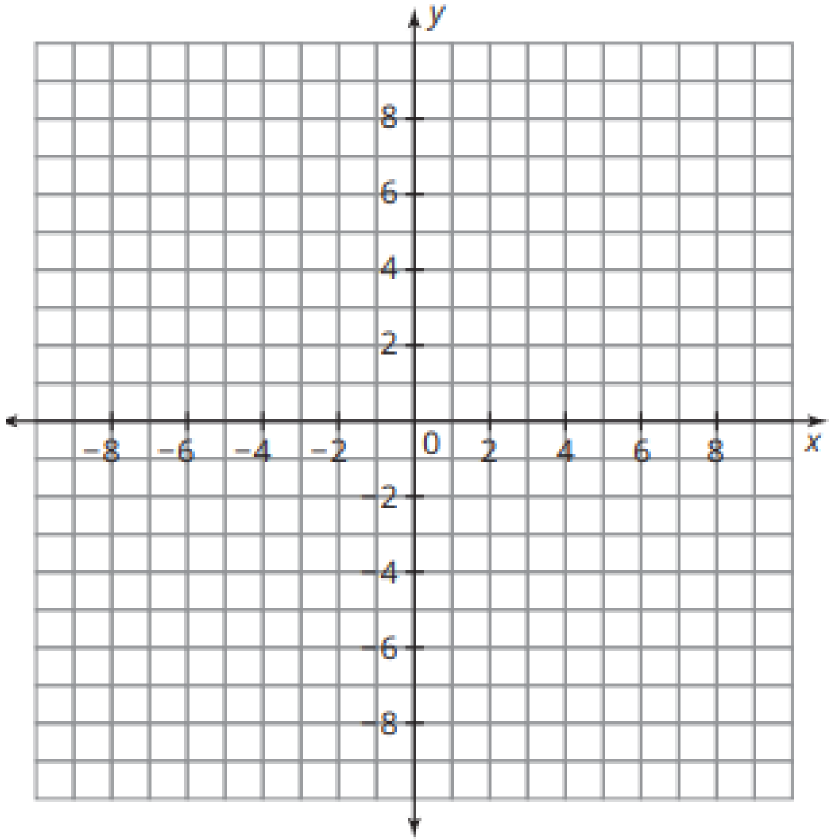
x	$h(x)$
−2	
−1	
0	
1	
2	



Inverse of $h(x)$	
x	y
	−2
	−1
	0
	1
	2

d. $r(x) = |x|$

x	$r(x)$
−2	
−1	
0	
1	
2	



Inverse of $r(x)$	
x	y
	−2
	−1
	0
	1
	2

For a one-to-one function $f(x)$, the notation for its inverse is $f^{-1}(x)$. The notation for inverse, $f^{-1}(x)$, does not mean the same thing as x^{-1}. The expression x^{-1} can be rewritten as $\frac{1}{x}$; however, $f^{-1}(x)$ cannot be rewritten, because it is only used as notation. In other words, $f^{-1}(x) \neq \frac{1}{f(x)}$.