

$$f(x) = y$$

10/8/2012

4.7 Graph Linear Functions

I. Evaluate

Evaluate the function when $x = -2, 0,$ and 3

1) $f(x) = 12x + 1$	2) $h(x) = \frac{1}{2}x - 6$
$f(x) = 12(-2) + 1$	$h(x) = \frac{1}{2}(-2) - 6$
$f(x) = -23$	$= -1 - 6$
$f(x) = 12(0) + 1$	$= -7$
$f(x) = 1$	$h(x) = \frac{1}{2}(0) - 6$
$f(x) = 12(3) + 1$	$= -6$
$f(x) = 37$	$h(x) = \frac{1}{2}(3) - 6$
$-23, 1, 37$	$= 1.5 - 6$
	$h(x) = -4.5$

plug those values in for x and solve for f(x) & n(x)

plug in values for $g(x)$ & $n(x)$ to solve for x!

II. Finding x-values

Find the value of x so that the function has the given value

3) $g(x) = -x + 5; 2$	4) $n(x) = -2x - 21; -6$
$2 = -x + 5$	$-6 = -2x - 21$
$-5 = -5$	$+21 = +21$
$-3 = -x$	$\frac{15}{-2} = \frac{-2x}{-2}$
$3 = x$	$-7.5 = x$

III. Graph

Graph the function. Compare with the parent function $f(x) = x$.

5) $g(x) = x + 2$
 slope = 1
 y-int = 2

Parent function (thick) is always (1,1), (2,2), (3,3) etc because $f(x) = x$
 $y = x$

"Vertical Translations"

III. Graph

Graph the function. Compare with the parent function $f(x) = x$.

6) $p(x) = -\frac{1}{3}x + 0$
 Slope = $-\frac{1}{3}$
 y-int = 0

- intersects parent function at origin
- has a negative slope

Homework

Pages 265-268

#s 4-22 even, 24, 28, 30, 40, 52, 54, 58

- parallel to parent function (same slope)
- 2 units above parent function