

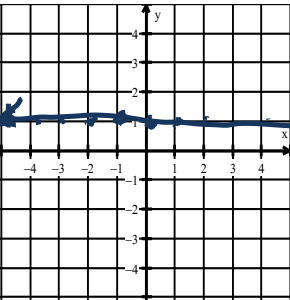
1.1 Introduction to Chapter 1 (Day 1)

OBJ: Identify linear transformations and graph linear transformations

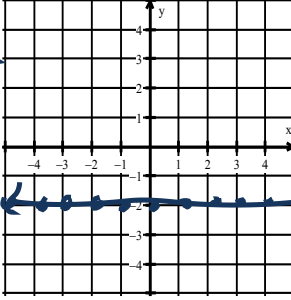
Essential Question: What are the characteristics of linear functions?

1. Graph the function. What do you notice?

a) $f(x) = 1$ **Constant** b) $g(x) = -2$

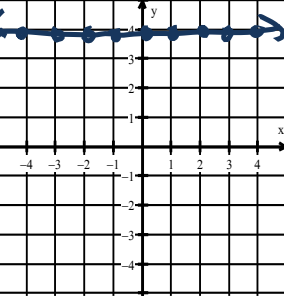


x	y
-2	1
-1	1
0	1
1	1
2	1

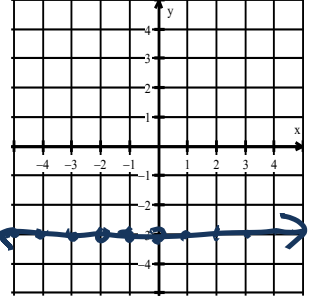


x	y
-2	-2
-1	-2
0	-2
1	-2
2	-2

c) $g(x) = 4$



d) $g(x) = -3$

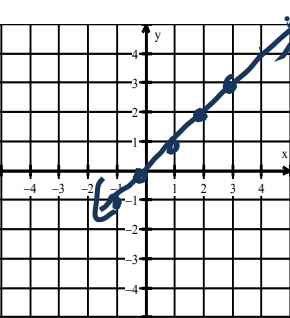


Parent functions--- the 'most basic function

Transformations--- a change in a graph's position, shape, or orientation

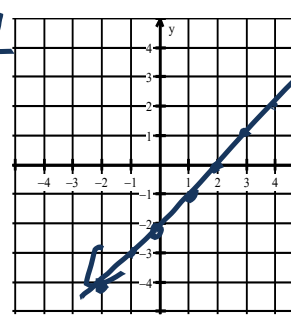
2. Name & graph each function and its parent function. Describe the transformation.

a) $f(x) = x$ **Linear**

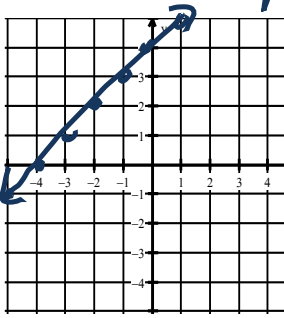


x	y
-2	-2
-1	-1
0	0
1	1
2	2

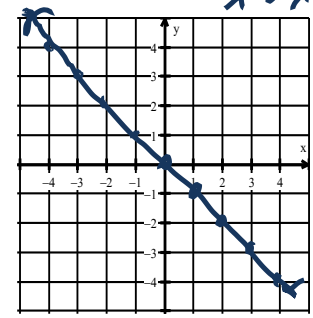
b) $g(x) = x - 2$ **Down 2**



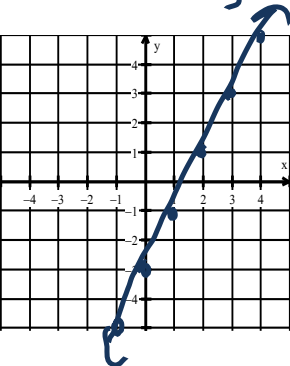
c) $g(x) = x + 4$ **up 4**



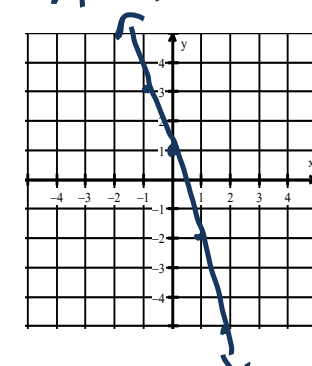
d) $g(x) = -x$ **Reflect x-axis**



e) $h(x) = 2x - 3$
 $m = 2$ **Down 3**

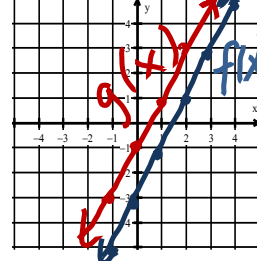


f) $k(x) = -3x + 1$
 $m = -3$ **up 1**

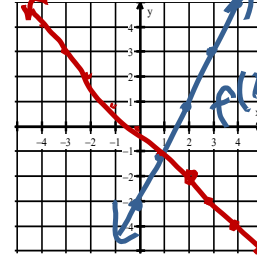


g) Let $f(x) = 2x - 3$

a. Graph $g(x) = f(x) + 2$ **up 2**



b. Graph $g(x) = -f(x)$ **Reflect x-axis**



SUMMARY:

Family	Constant	Linear
Parent Function	$f(x) = 2$	$f(x) = x$
General Function	$f(x) = a$	$f(x) = ax + b$
Graph		

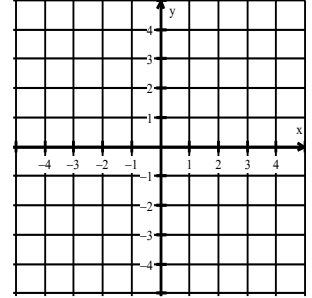
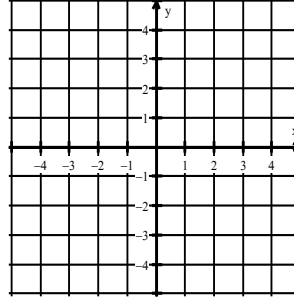
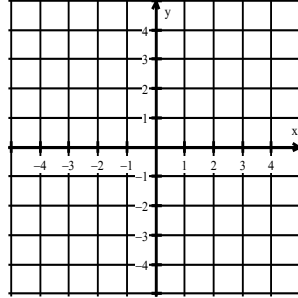
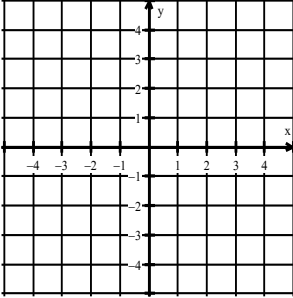
1. Name & graph each function and its parent function. Describe the transformation. Find the domain and range.

a) $f(x) = -1$

b) $g(x) = x - 1$

c) $h(x) = x + 3$

d) $g(x) = 4$

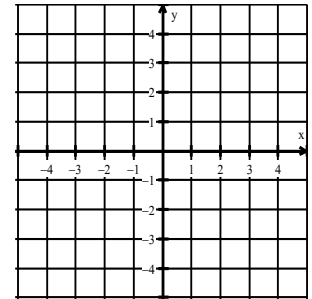
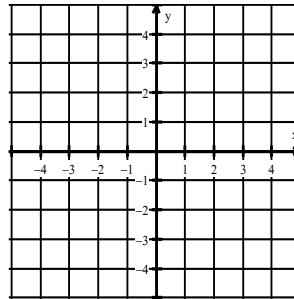
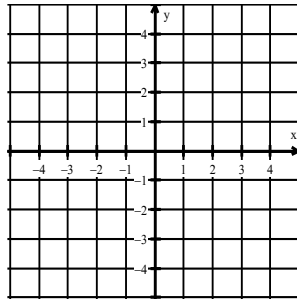
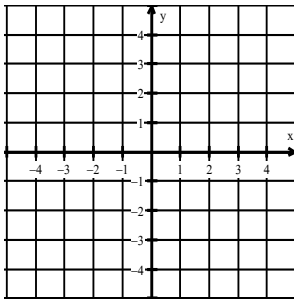


e) $f(x) = -x + 2$

f) $h(x) = 2x - 1$

g) $g(x) = 3$

h) $g(x) = -2x + 3$



2. Let $f(x) = x - 2$

3. a) What is another name for $f(x)$?

a. Graph $g(x) = f(x) + 3$

b. Graph $g(x) = -f(x)$

b) In your own words, how does the graph of $y = -f(x)$ relate to $f(x)$?

