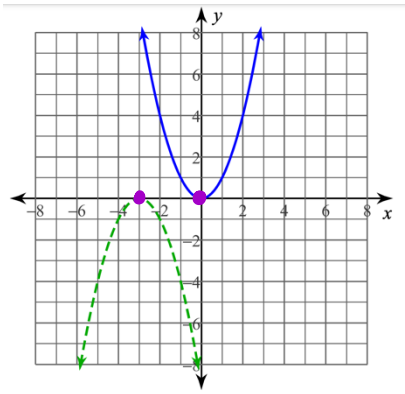
Name: key

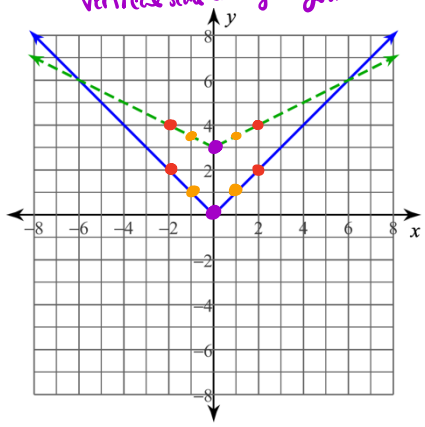
2.5 Extra Practice

1.) f(x) is the solid lined function (blue). g(x) is the dotted function (green) and is a transformed version of the parent function f(x). List the transformations applied to f(x) to achieve g(x).

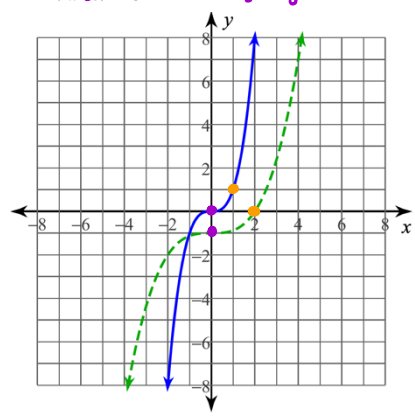
a.) reflect the x axis
left 3 units



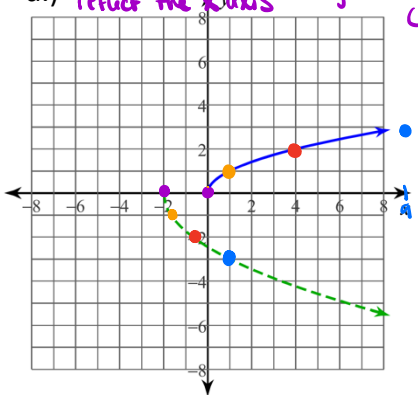
b.) up 3 units
Vertical scale change by 1/2



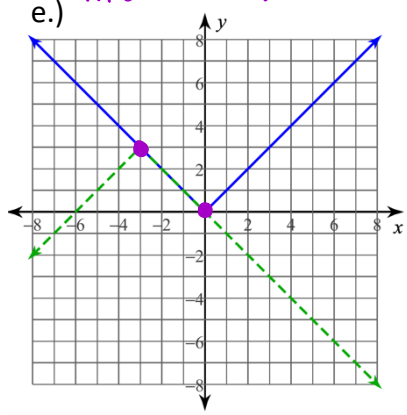
c.) down 1 unit
horizontal scale change by 2 (b value of 1/2)



d.) left 2 units
reflect the x axis
horizontal scale change by a factor of $\frac{1}{3}$ (b value of 3)



e.) reflect x axis, left 4 units, up 3 units



2.) List the transformations done to f(x) to achieve g(x).

a.) Parent Function: $y = f(x)$ $\quad g(x) = f(-x) - 8$

- reflect the y axis
- down 8 units

b.) Parent Function: $y = f(x)$ $\quad g(x) = 7f(x+5)$

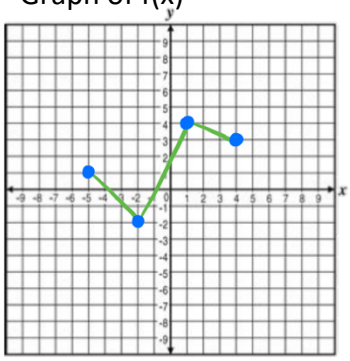
- vertical scale change "stretch" by factor of 7
- left 5 units

c.) Parent Function: $y = f(x)$ $\quad g(x) = -f\left(\frac{1}{3}x\right) + 4$

- reflect the x axis
- horizontal scale change "stretch" by factor of 3
- up 4

3.) The graph of f(x) is given. Graph g(x) (a transformation of f(x)) on the provided graphs and list the transformations.

Graph of f(x)



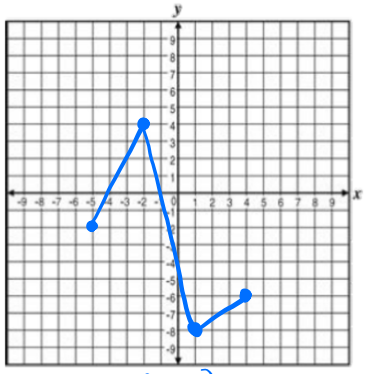
Parent Points

x	y
-5	1
-2	-2
1	4
4	3

a.) $g(x) = -2f(x)$

reflect x axis

V. stretch bfo 2

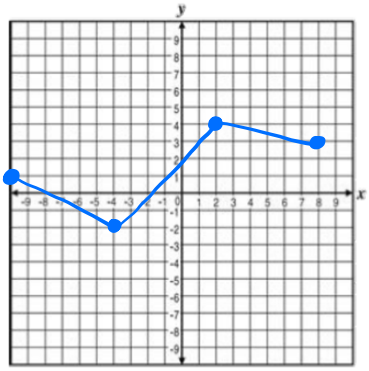


x	y (-1)·(2)
-5	1
-2	-2
1	4
4	3

x	y
-5	-2
-2	4
1	-8
4	-6

b.) $g(x) = f(\frac{1}{2}x)$

H. stretch bfo 2

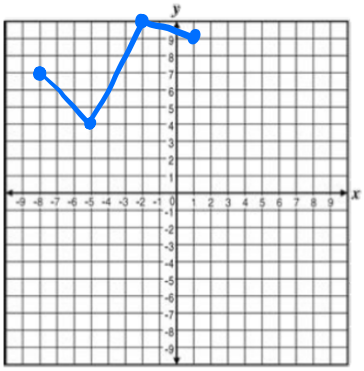


½÷x	y
-5	1
-2	-2
1	4
4	3

x	y
-10	1
-4	-2
2	4
8	3

c.) $g(x) = f(x + 3) + 6$

left 3 up 6

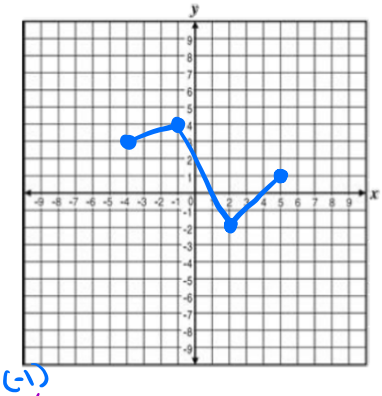


-3 x	y +6
-5	1
-2	-2
1	4
4	3

x	y
-8	7
-5	4
-2	10
1	9

d.) $g(x) = f(-x)$

reflect y axis

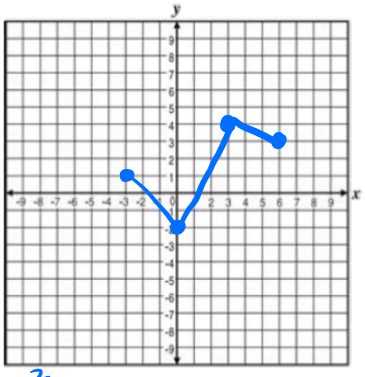


(-1) x	y
-5	1
-2	-2
1	4
4	3

x	y
5	1
2	-2
-1	4
-4	3

e.) $g(x) = f(x - 2)$

Right 2

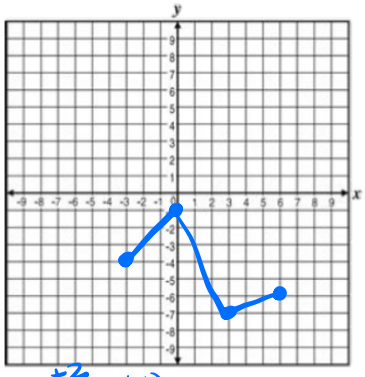


+2 x	y
-5	1
-2	-2
1	4
4	3

x	y
-3	1
0	-2
3	4
6	3

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

reflect x axis, right 2, down 3



+2 x	y (-1) -3
-5	1
-2	-2
1	4
4	3

x	y
-3	-4
0	-1
3	-7
6	-6