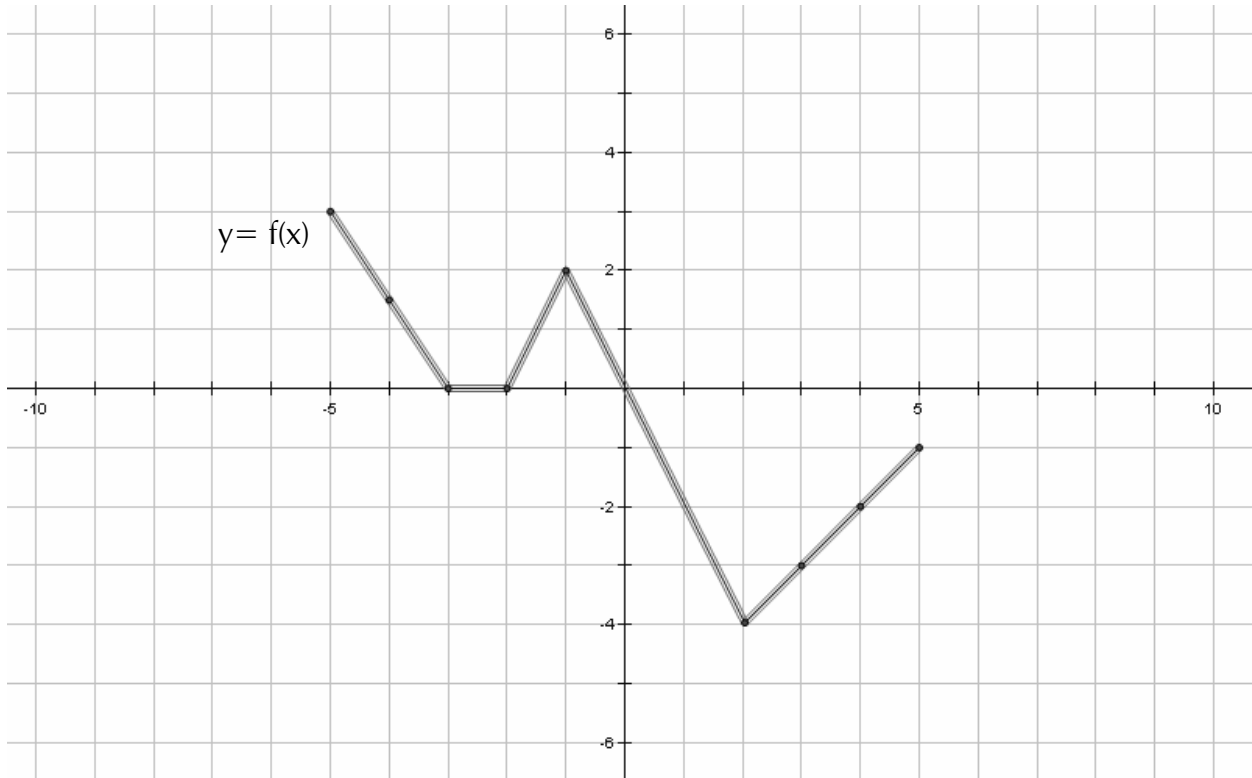


## Unit 2:14 Transformation of Functions

Given the following graph of  $y = f(x)$ .



Fill in the table of values that represents the function  $y = f(x)$ .

x	-5	-4	-3	-2	-1	0	1	2	3	4	5
f(x)		1.5									


*2:14 Transformation of Functions*

Group A

Fill in the table below and graph each new set of points.

x	-5	-4	-3	-2	-1	0	1	2	3	4	5
f(x)	3	1.5	0	0	2	0	-2	-4	-3	-2	-1
2f(x)			0			0			-6		
3f(x)											
0.5f(x)					1						
-f(x)											
-2f(x)											

What can you say about the graphs of  $y = 2f(x)$  in comparison to  $y = f(x)$ ?  $y = 3f(x)$  in comparison to  $y = f(x)$ ?  $y = 0.5f(x)$  in comparison to  $y = f(x)$ ?  $y = -f(x)$  in comparison to  $y = f(x)$ ?  $y = -2f(x)$  in comparison to  $y = f(x)$ ?

In general, what can you say about  $y = af(x)$  in comparison to  $y = f(x)$ ?

Unit 2:14 Transformation of Functions

Group B

Fill in the table below and graph each new set of points.

x	-5	-4	-3	-2	-1	0	1	2	3	4	5
f(x)	3	1.5	0	0	2	0	-2	-4	-3	-2	-1
f(2x)			0		0	1			-4		
f(0.5x)		0									
f(-x)											
f(-2x)											

What can you say about the graphs of  $y = f(2x)$  in comparison to  $y = f(x)$ ?  $y = f(0.5x)$  in comparison to  $y = f(x)$ ?  $y = f(-x)$  in comparison to  $y = f(x)$ ?  $y = f(-2x)$  in comparison to  $y = f(x)$ ?

In general, what can you say about  $y = f(kx)$  in comparison to  $y = f(x)$ ?

Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

*Unit 2:14 Transformation of Functions*

Group C

Fill in the table below and graph each new set of points.

x	-5	-4	-3	-2	-1	0	1	2	3	4	5
f(x)	3	1.5	0	0	2	0	-2	-4	-3	-2	-1
f(x-1)					0	1		-2			
f(x+1)								-3			

What can you say about the graphs of  $y = f(2x)$  in comparison to  $y = f(x)$ ?  $y = f(0.5x)$  in comparison to  $y = f(x)$ ?

In general, what can you say about  $y = f(x - p)$  in comparison to  $y = f(x)$ ?