Name _____ Date _____ Class_____

LESSON 1-1

Practice B

Exploring Transformations

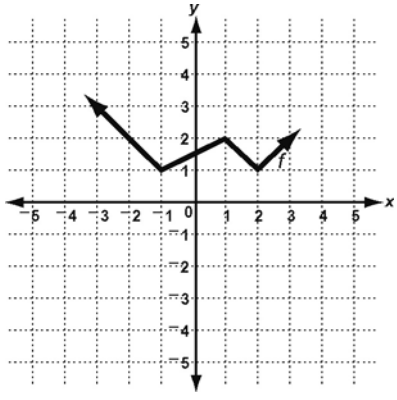
Perform the given translation on the point (2, 5) and give the coordinates of the translated point.

1. left 3 units _____
2. down 6 units _____
3. right 4 units, up 2 units _____

Use the table to perform each transformation of $y = f(x)$. Use the same coordinate plane as the original function.

4. translation left 1 unit, down 5 units

	x	*y*	
	–3	3	
	–1	1	
	1	2	
	2	1	
	3	2	



5. vertical stretch factor of $\frac{3}{2}$

x	*y*	
–3	3	
–1	1	
1	2	
2	1	
3	2	

6. horizontal compression factor of $\frac{1}{2}$

	x	*y*
	–3	3
	–1	1
	1	2
	2	1
	3	2

7. reflection across *x*-axis

x	*y*	
–3	3	
–1	1	
1	2	
2	1	
3	2	

Solve.

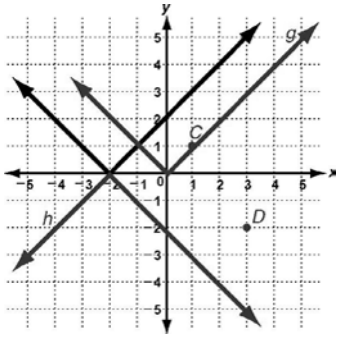
8. George has a goal for the number of computers he wants to sell each month for the next 6 months at his computer store. He draws a graph to show his projected profits for that period. Then he decides to discount the prices by 10%. How will this affect his profits? Identify the transformation to his graph and describe how to find the ordered pairs for the transformation.

_____

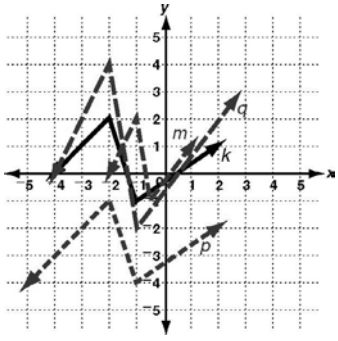
Answer for Foundations for Functions

1-1 EXPLORING TRANSFORMATIONS

Practice A



1. (–1, 3)
2. (3, –2)
3. *x*-coordinate
4. *y*-coordinate



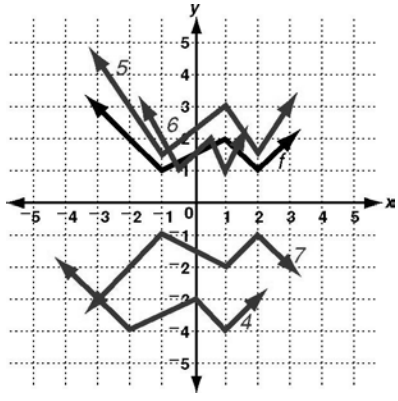
5. *x*-coordinate
6. It is 3 less than the original *y*-coordinate.
7. *y*-coordinate
8. (x, y) becomes $(x - 2, y + 4)$.
9. (x, y) becomes $\left(x, \frac{2}{3}y\right)$.

Practice B

1. (–1, 5)
2. (2, –1)
3. (6, 7)

4.

$x - 1$	x	y	$y - 5$
–4	–3	3	–2
–2	–1	1	–4
0	1	2	–3
1	2	1	–4
2	3	2	–3



5.

x	***y***	$\frac{3}{2}y$
–3	3	$\frac{9}{2}$
–1	1	$\frac{3}{2}$
1	2	3
2	1	$\frac{3}{2}$
3	2	3

6.

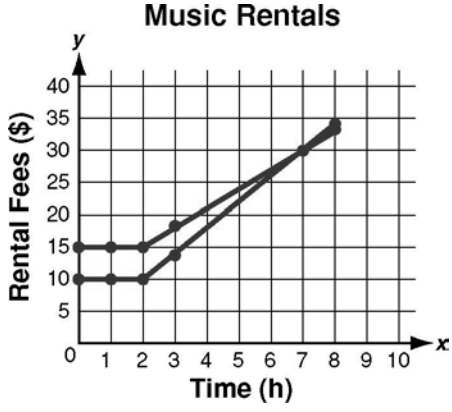
$\frac{1}{2}x$	x	y
$-\frac{3}{2}$	–3	3
$-\frac{1}{2}$	–1	1
$\frac{1}{2}$	1	2
1	2	1
$\frac{3}{2}$	3	2

7.

x	y	$-y$
–3	3	–3
–1	1	–1
1	2	–2
2	1	–1
3	2	–2

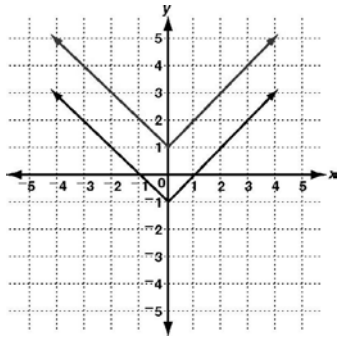
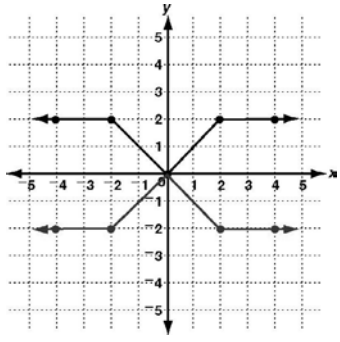
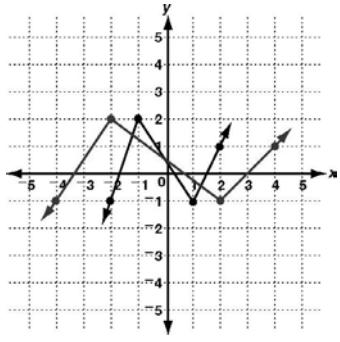
8. Profits are reduced by 10%; vertical compression; (x, 0.9y).

Practice C

1. Areas are equal.
2. Area is $\frac{1}{2}$ of original trapezoid.
3. Area is doubled.
4. Area is $\frac{1}{2}$ of original trapezoid.
5. Area is $\frac{3}{2}$ of original trapezoid.
6. 

7. Translation
8. Vertical compression
9. Horizontal stretch and translation

Reteach

1. 
2. 
3. 
4.