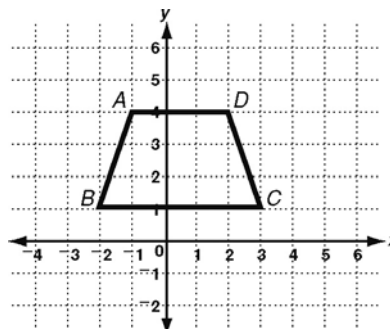


LESSON
1-1

Practice C
Exploring Transformations

Transform trapezoid *ABCD* as indicated. Estimate the area of each transformed trapezoid as compared to the area of trapezoid *ABCD*.



1. reflection across the *x*-axis

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

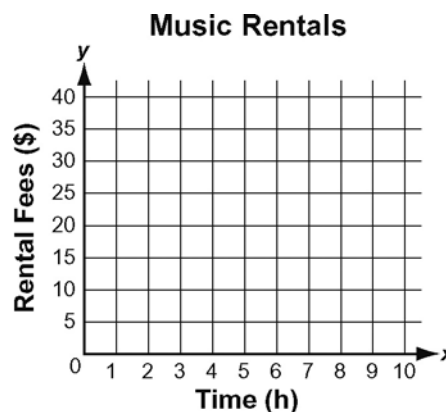
3. horizontal stretch by a factor of 2

4. vertical compression by a factor of $\frac{1}{2}$

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

Tucci’s House of Music rents practice space and musical instruments. Use of a practice room costs \$10 for the first 2 hours and \$4 for each additional hour. An electric guitar rents for \$15 for the first 2 hours and \$3 for each additional hour.

6. Sketch a graph of two functions, one for the cost of renting a practice room and another for the cost of renting an electric guitar.



Identify the transformation of the original graphs represented by the following changes.

7. The charge for the first 2 hours’ rental of a practice room increases to \$12.

8. As a special promotion, Tucci’s House of Music cuts the practice room charges by 50% for first-time users.

9. The cost of renting a guitar increases to \$30 for the first 4 hours and \$6 for each additional hour.

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.

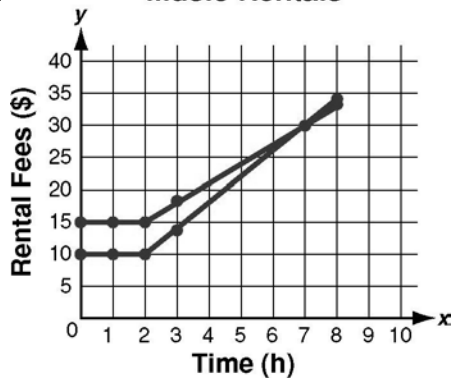
x	y	$-y$
-3	3	-3
-1	1	-1
1	2	-2
2	1	-1
3	2	-2

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. **Music Rentals**



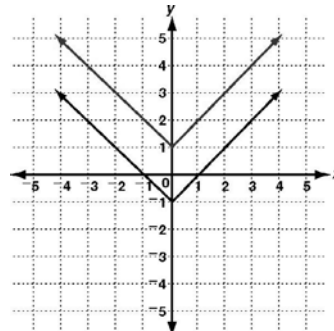
7. Translation

8. Vertical compression

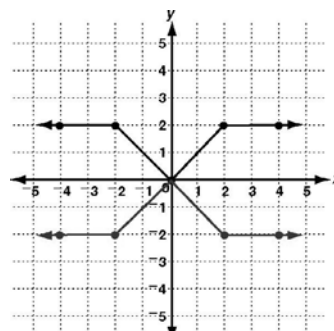
9. Horizontal stretch and translation

Reteach

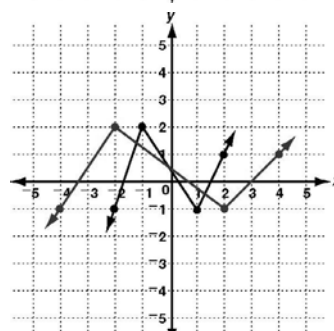
1.



2.



3.



4.

