

## Module 1: Topic 2 Lesson 2 Assignment—Rising, Running, Stepping, Scaling

**VOCABULARY**----For questions 1-2, complete the following sentences with the correct term. Use your book to help you.

- A DILATION with a scale factor greater than 1 is an \_\_\_\_\_.
- A DILATION with a scale factor between 0 and 1 is a \_\_\_\_\_.

RATIO:

$\frac{\text{NEW}}{\text{ORIGINAL}}$

### PRACTICE

Classify the following scale factors as Reductions or Enlargements or Neither.

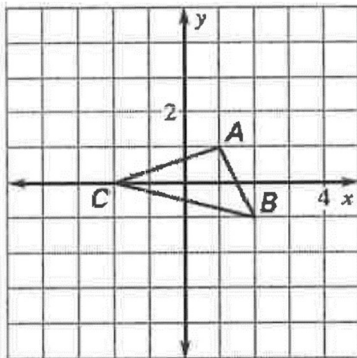
3.5, 2/5, 1, 4/3, 0.6, 5/8, 7

REDUCTION	ENLARGEMENT	NEITHER

**For questions 1-3, Dilate the triangle using the scale factor given and using the origin as the center of dilation.**

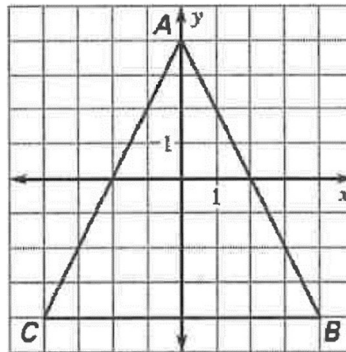
1.  $k=2$

ENLARGEMENT or REDUCTION



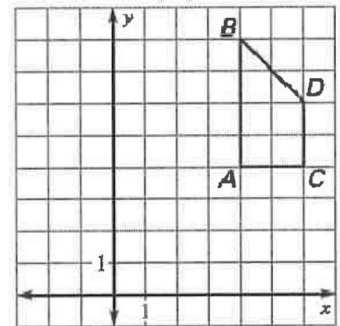
2.  $k=1/4$

ENLARGEMENT or REDUCTION



3.  $k=1/2$

ENLARGEMENT or REDUCTION



4. Determine the scale factor of the dilation.

$$A(7, -3) \rightarrow A'(28, -12)$$

Scale Factor: \_\_\_\_\_

5. Determine the scale factor of the dilation.

$$Z(0, 12) \rightarrow Z'(0, 6)$$

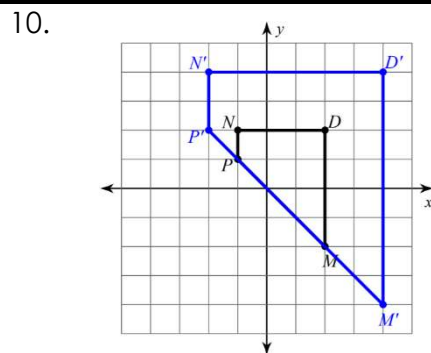
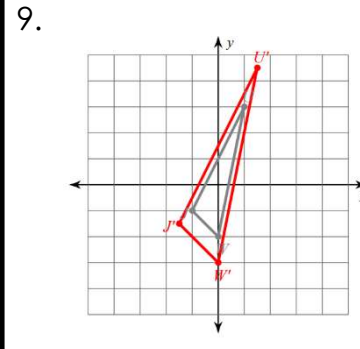
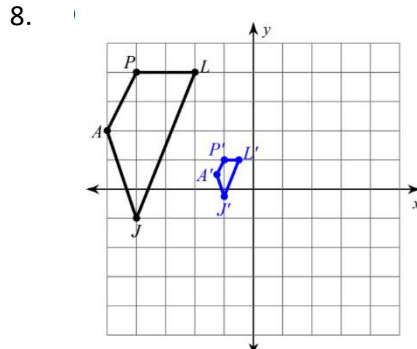
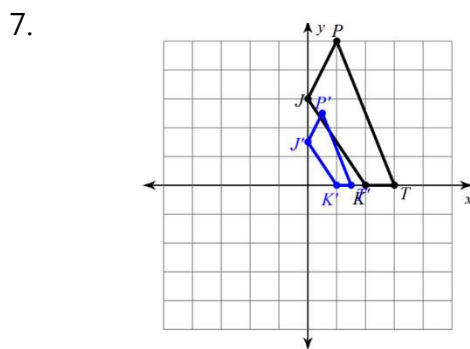
Scale Factor: \_\_\_\_\_

6. Determine the scale factor of the dilation.

$$A(-12, 4) \rightarrow A'(-18, 6)$$

Scale Factor: \_\_\_\_\_

Given the following images, determine the scale factor used to graph the coordinates.



- Are these two figures congruent? How do you know?
- Are these two figures similar? How do you know?
- Describe the Dilation that occurred to map quadrilateral DMNP onto quadrilateral D'M'N'F'.

11a. Dilate  $\triangle ABC$  by a scale factor of  $1/3$ .

Pre-Image	Image
A (6, -3)	A'
B (9, 5)	B'
C (5, 6)	C'

Rule: \_\_\_\_\_

b. Dilate  $\triangle ABC$  by a scale factor of 7.

Pre-Image	Image
A (6, -3)	A'
B (8, 1)	B'
C (-4, 9)	C'

Rule: \_\_\_\_\_

c. Dilate  $\triangle ABC$  by a scale factor of  $2/3$ .

Pre-Image	Image
A (6, -3)	A'
B (12, 9)	B'
C (3, -15)	C'

Rule: \_\_\_\_\_

b. Dilate  $\triangle ABC$  by a scale factor of 4.

Pre-Image	Image
A (6, -1)	A'
B (7, -5)	B'
C (5, 2)	C'

Rule: \_\_\_\_\_

## REVIEW

12. A line segment is dilated with center of dilation at the origin. If  $UE = 12\text{cm}$  and  $U'E' = 10\text{cm}$ , what is the scale factor?

13. What are the coordinates of the image if the quadrilateral is translated 4 units to the right and 3 units down.

Pre-Image	Image
A (-6, 2)	A'
B (-5, 3)	B'
C (7, 3)	C'
D (0, -4)	D'

**RULE:**  $(x, y) \rightarrow ( \quad , \quad )$