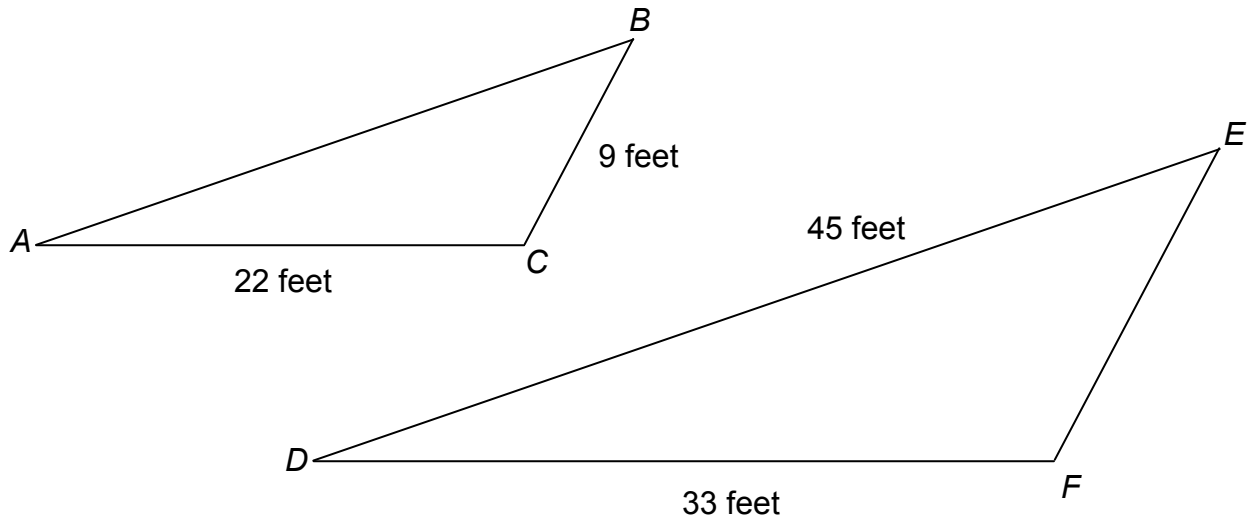


Name: _____ Period: _____ Date: _____

Activity: Similar Figures

1. $\triangle ABC \sim \triangle DEF$ as shown below.

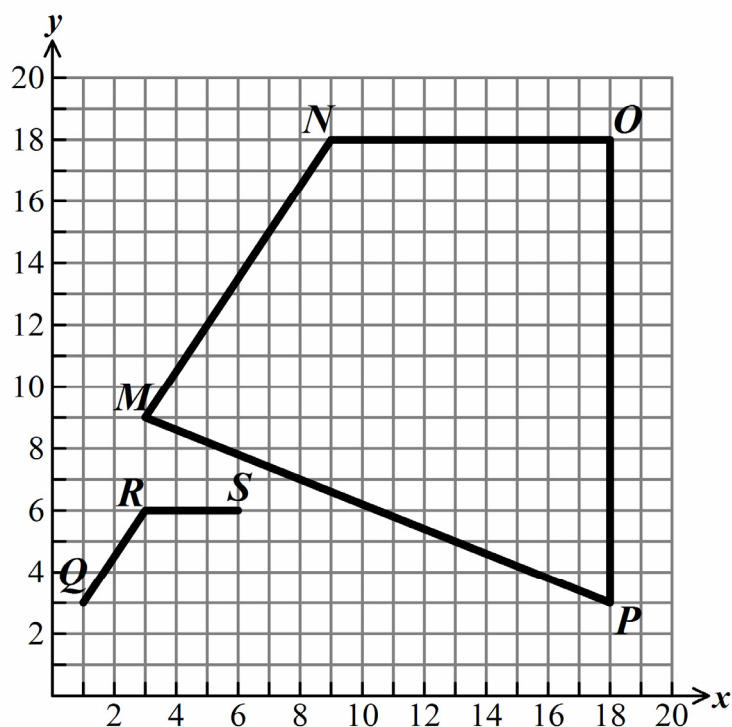


Find the following:

- The length of side EF _____
- The length of side AB _____
- The scale factor to transform $\triangle ABC$ to $\triangle DEF$ _____
- The perimeter of $\triangle ABC$ _____
- The perimeter of $\triangle DEF$ _____
- The scale factor to transform the perimeter of $\triangle ABC$ to the perimeter of $\triangle DEF$ _____
- What is the relationship between the scale factor of the side lengths of the two triangles and the scale factor of the perimeters of the two triangles? _____

Describe the characteristics of similar figures.

2. Quadrilateral $MNOP$ is dilated to form quadrilateral $QRST$.



- What is a dilation?
- What scale factor could be used to transform quadrilateral $MNOP$ to quadrilateral $QRST$?
- If quadrilateral $MNOP$ is dilated to form quadrilateral $QRST$, what will be the coordinates of point T ?

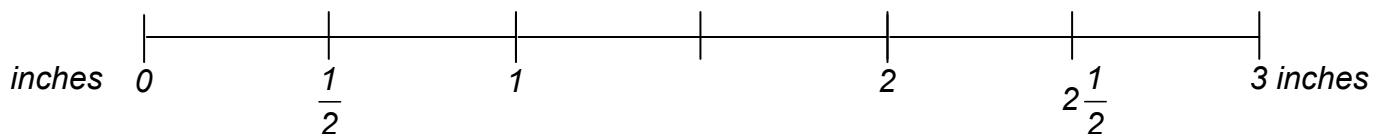
Name: _____ Period: _____ Date: _____

Activity: Scales and Proportions

Show and explain how to use each of the four methods shown to solve the problem below.

1. A map of the Houston area has a scale in which $\frac{1}{2}$ inch equals 5 miles. If the distance on the map is $2\frac{1}{2}$ inches, what is the actual distance in miles?

Method 1: Drawing



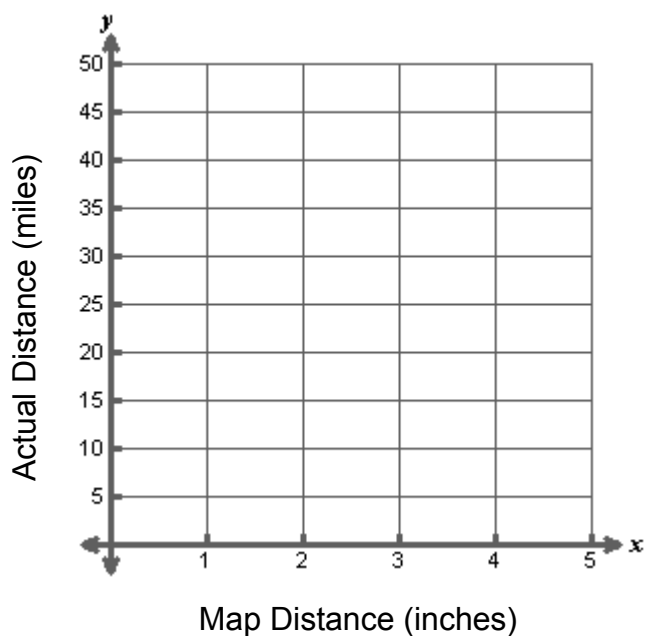
Method 2: Table

Map Distance	$\frac{1}{2}$ inch	1 inch	$1\frac{1}{2}$ inches	2 inches	$2\frac{1}{2}$ inches	3 inches
Actual Distance						

Method 3: Proportion

	Scale	Distance
Map Distance		
Actual Distance		

Method 4: Graph



Lesson 13

Grade 10

Use the method of your choice to solve the problem below.

2. A poster has been dilated proportionally.



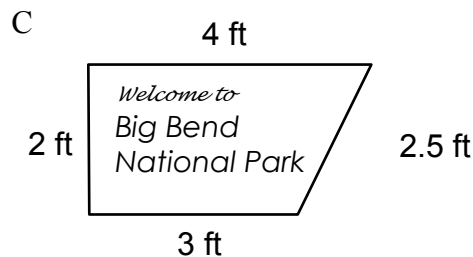
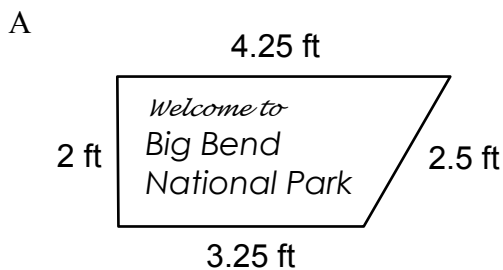
Which set of dimensions cannot represent an enlargement or a reduction of the poster shown? Justify your answer.

- A 14 inches by 11 inches
- B 21 inches by 16.5 inches
- C 30 inches by 24 inches
- D 42 inches by 33 inches

Name: _____ Period: _____ Date: _____

Evaluate: Similar Figures and Dilations

- 1 Which of the following would be an enlargement or reduction of the traffic sign shown below?



Lesson 13
Grade 10

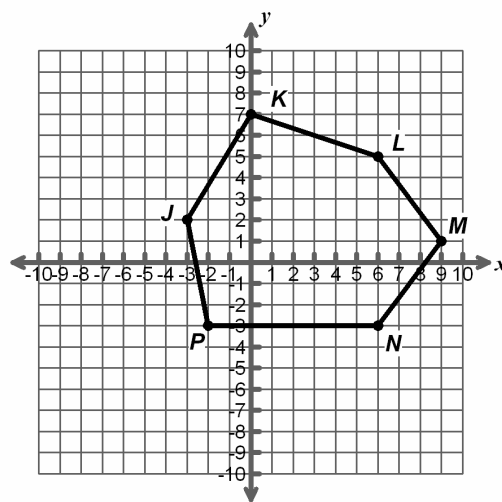
- 2 A blueprint of a house has a scale in which $\frac{1}{4}$ inch equals 1 foot. If the length of the living room on the blueprint is $6\frac{1}{4}$ inches, what is the actual length of the living room in feet?

A 6.5 ft
B 24 ft
C 25 ft
D 31 ft

- 3 A scale factor of 2 is applied to a triangle. If the perimeter of the original triangle is 24 centimeters, what is the perimeter of the resulting triangle?

A 26 centimeters
B 27 centimeters
C 36 centimeters
D 48 centimeters

- 4 Hexagon $JKLMNP$ is graphed on the coordinate grid below.



Which of the following points would be the location of P' if hexagon $JKLMNP$ is dilated by a scale factor of $\frac{3}{2}$ with a center of dilation at $(0, 0)$?

A $\left(-4\frac{1}{2}, -3\right)$
B $\left(-3, -4\frac{1}{2}\right)$
C $\left(-1\frac{1}{2}, -1\right)$
D $\left(-1, -1\frac{1}{2}\right)$