

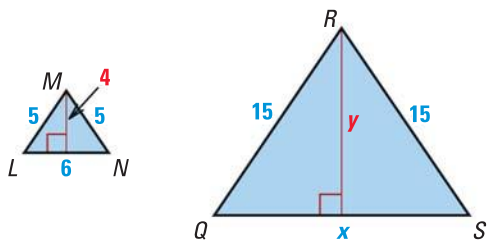
# MIXED REVIEW of Problem Solving



STATE TEST PRACTICE  
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## Lessons 6.1–6.3

1. **MULTI-STEP PROBLEM** In the diagram,  $\triangle LMN \sim \triangle QRS$ .



- Find the scale factor of  $\triangle LMN$  to  $\triangle QRS$ . Then find the values of  $x$  and  $y$ .
  - Find the perimeters of  $\triangle LMN$  and  $\triangle QRS$ .
  - Find the areas of  $\triangle LMN$  and  $\triangle QRS$ .
  - Compare the ratio of the perimeters to the ratio of the areas of  $\triangle LMN$  to  $\triangle QRS$ . What do you notice?
2. **GRIDDED ANSWER** In the diagram,  $AB:BC$  is 3:8. Find  $AC$ .



3. **OPEN-ENDED**  $\triangle UVW$  is a right triangle with side lengths of 3 cm, 4 cm, and 5 cm. Draw and label  $\triangle UVW$ . Then draw a triangle similar to  $\triangle UVW$  and label its side lengths. What scale factor did you use?
4. **MULTI-STEP PROBLEM** Kelly is going on a trip to England. She takes 600 U.S. dollars with her.

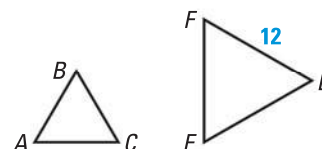
One U.S. Dollar Buys		
	EURO	.81
	GREAT BRITAIN	.54
	CANADA	1.24

- In England, she exchanges her U.S. dollars for British pounds. During her stay, Kelly spends 150 pounds. How many British pounds does she have left?
- When she returns home, she exchanges her money back to U.S. dollars. How many U.S. dollars does she have at the end of her trip?

5. **SHORT RESPONSE** Kelly bought a 3-D scale model of the Tower Bridge in London, England. The towers of the model are 9 inches tall. The towers of the actual bridge are 206 feet tall, and there are two walkways that are 140 feet high.



- Approximate the height of the walkways on the model.
  - About how many times as tall as the model is the actual structure?
6. **GRIDDED ANSWER** In the diagram,  $\triangle ABC \sim \triangle DEF$ . The scale factor of  $\triangle ABC$  to  $\triangle DEF$  is 3:5. Find  $AC$ .



7. **EXTENDED RESPONSE** In the United States, 4634 million pounds of apples were consumed in 2002. The population of the United States in that year was 290 million.
- Divide the total number of apples consumed by the population to find the per capita consumption.
  - About how many pounds of apples would a family of four have consumed in one year? in one month?
  - A medium apple weighs about 5 ounces. Estimate how many apples a family of four would have consumed in one month.
  - Is it reasonable to assume that a family of four would have eaten that many apples? What other factors could affect the per capita consumption? *Explain.*