

<b>MA 7F</b>	<b>Mathematics Embedded Credit</b>
<b>Cape Career &amp; Technology Center</b>	<b>Last Update: April 2017</b>
<b>Topic: Basic Geometry</b>	<b>Focus: Word Problems</b>

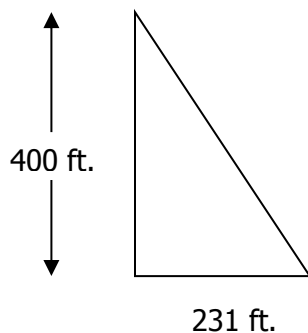
Show-Me Standards: MA2, MA4, G3-4	MO Grade Level Expectations: G1B9, G2A9, G1A8, M2C6, M2C7, M2C8, G4A10	NCTM Standards: 8A, 8B, 8D, 11A
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**OBJECTIVE: Students will use basic geometry principles to solve inquiries presented in word problems format.**

**Introduction:**

**PROBLEMS:**

1. One rectangular room in a house measures 9 ft. by 16 ft. Another rectangular room has the same area but a width of 12 ft. What is the length of the room?
  
2. Sod comes in rectangular patches that are 3 ft. by 6 ft. and cost \$4.50 each. If you resod your Daycare facility yard that measures 10 yd. by 15 yd., how much will the sod cost?
  
3. Mr. Erpenbach needs to sow grass seed on the corner field in the diagram. One bag of seed covers approximately 50 yd<sup>2</sup>. How many bags of seed will Mr. Erpenbach need?



4. Suppose you have 100 ft. of fencing to build a kennel. What is the largest square kennel you can build? What is the largest circular kennel you can build? Which of the two options will give you the greatest area for the cost of the fencing?
5. For a Graphic and Communication Arts presentation you are using an LCD projector to enlarge an image. The image on the computer and the wall screen are similar. The ratio of lengths of a segment on the computer screen to the corresponding segment on the wall-mounted screen is  $\frac{2in.}{15in.}$ . The perimeter on the image on the computer screen is 36 inches. What is the perimeter of the image on the wall-mounted screen?
6. Delilah used a scale factor of  $\frac{5}{2}$  to enlarge a photograph. The original dimensions of the photo are 6 cm by 9 cm. Find the dimensions of the new photo. Find the perimeter of the new photo.
7. An angle is 25-degrees greater than its complement. How large is the angle?

8. Wallboard must be placed on all four interior walls of a room that is 12 ft. long, 15 ft. wide, and 9 ft. high. Find the total area of the wallboard.
9. An orange juice can is a cylinder with a base diameter of 3.5 in. and a height of 7.5 in. Find the area of the label.
10. A dump truck has a bed that is 10 ft. long and 4 ft. wide. The truck is loaded with gravel to an average height of  $5\frac{1}{2}$  ft. The gravel costs \$22 per cubic yard. What is the cost for a truck load of gravel?
11. A rectangular swimming pool is 50 m long and 25 m wide. It is filled to a height of 1.5 m. How many cubic meters of water must be added to fill the pool to a height of 2 m.
12. An extinct volcano has the shape of a cone with a base diameter of 10 miles and a height of 0.8 mi. What is the approximate volume of the volcano?

13. Michael drove due north 60 mi. He then drove due west 91 mi. How far (as the crow flies) is Michael from his starting point?

14. Paula bought a riverside property that has the shape of a triangle. The lengths of the sides of the property are 54 ft., 90 ft., and 72 ft. Does the property form a right triangle? Why or why not?