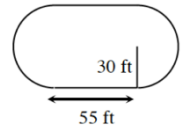


Homework 8.4.3

1. The city of Denver wants you to help with their plan to build a dog park. The design of the park is a rectangle with two semicircular ends. (Note: A semicircle is half of a circle.)



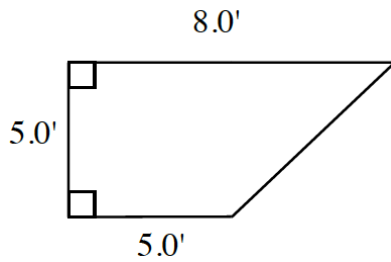
- a. The entire park needs to be covered with grass. If grass is sold by the square foot, how much grass should you order?
- b. The park also needs a fence for its perimeter. A sturdy chain-link fence is sold by the foot and costs \$8 per foot. How much will a chain-link fence for the entire park cost?
- c. The local design board has rejected the plan because it is too small. “*Big dogs need lots of room to run,*” the president of the board said. Therefore, you need to increase the size of the park by a linear scale factor of 2. What is the area of the new design? What is the perimeter?

2. Use the angle relationships in each of the diagrams below to solve for the given variables. Show all work.

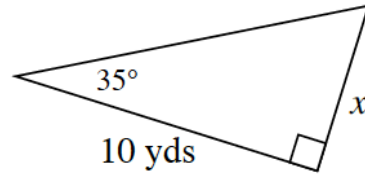
<p>a.</p>	<p>b.</p>	<p>c.</p>
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3. This problem is a checkpoint for applying trigonometric ratios and the Pythagorean Theorem. Ideally, at this point you are comfortable working with these types of problems and can solve them correctly.

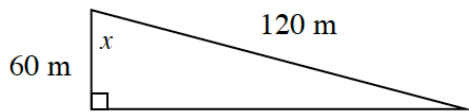
a. Compute the perimeter.



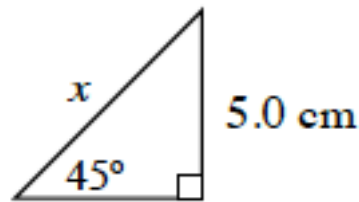
b. Solve for x .



c. Solve for x .



d. Solve for x .



4. Juanito is flying a kite at the park and realizes that all 500 feet of string have been let out. Margie measures the angle of the string with the ground using her clinometer and determines it is 42° . How high is Juanito's kite above the ground? Draw a diagram and use the appropriate trigonometric ratio.