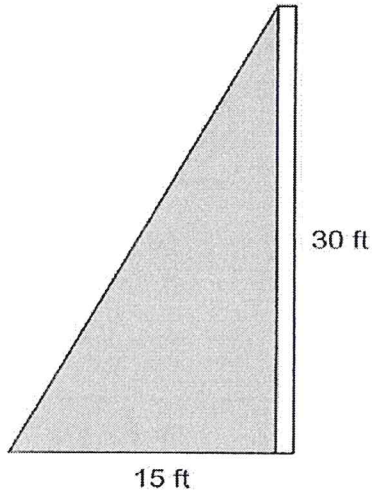


Do You Know Pythagoras?

Name: _____

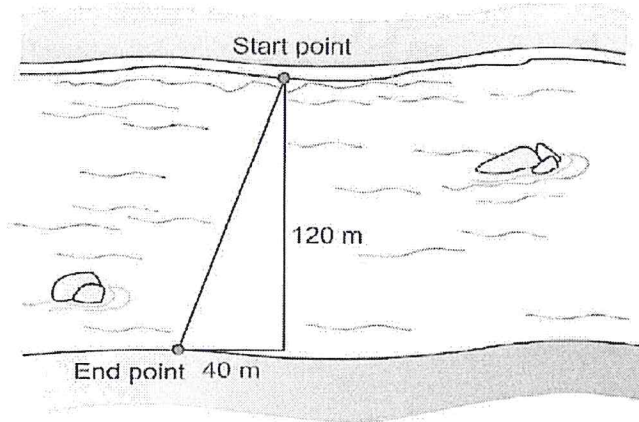
DIRECTIONS: Study the information and figure below. Then read each question, and choose the **best** answer.

A telephone pole is 30 feet tall. A cable attached to the top of the pole is anchored to the ground 15 feet away from the base of the pole.



DIRECTIONS: Study the information and diagram, read each question, and choose the **best** answer.

The river is 120 meters wide. Sara starts out swimming across the river. The current pushes her, so she ends up 40 meters downriver from where she started.



2. What is the length of the cable to the nearest tenth of a foot?

- A. 26.0
- B. 30.7
- C. 32.2
- D. 33.5

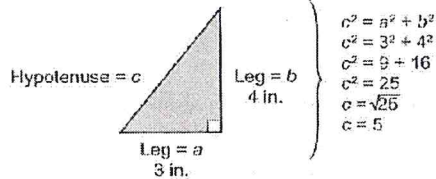
5. To the nearest whole meter, how many meters did Sara actually swim?

- A. 113
- B. 105
- C. 126
- D. 160

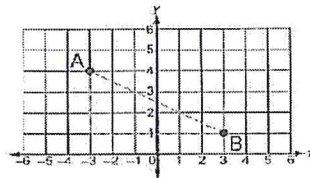
2 Practice the Skill

By practicing the skill of using the Pythagorean Theorem to find the missing side of a right triangle, you will improve your study and test-taking abilities, especially as they relate to the GED® Mathematical Reasoning Test. Read the examples and strategies below. Then answer the question that follows.

(1) The Pythagorean Theorem is written:
 $a^2 + b^2 = c^2$
 where a and b are the legs, and c is the hypotenuse. The hypotenuse is always the side opposite the right angle. After solving for the missing side length, check to ensure that the hypotenuse has the greatest measure. Here, solve for c using the values for a and b .



(2) Use the Pythagorean Theorem to find the distance between points A and B. Count units to find the lengths of the legs, and use the Pythagorean Theorem to solve for the hypotenuse.
 $c^2 = 3^2 + 6^2$
 $c^2 = 45$
 $c = 6.7$



TEST-TAKING TIPS

If the sides of a triangle make the equation $a^2 + b^2 = c^2$ true, then the triangle proves to be a right triangle.

1. The bottom of a ladder is resting 5 feet from the wall of a garage. The wall and the ground form a right angle. If the ladder is 10 feet long, about how far up the wall does it reach?

- A. 5.0 ft
- B. 6.4 ft
- C. 8.7 ft
- D. 11.2 ft

Do You Know Pythagoras?

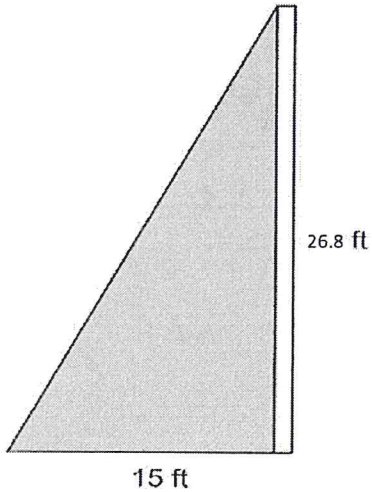
PART TWO

PROVE IT!

Name: _____

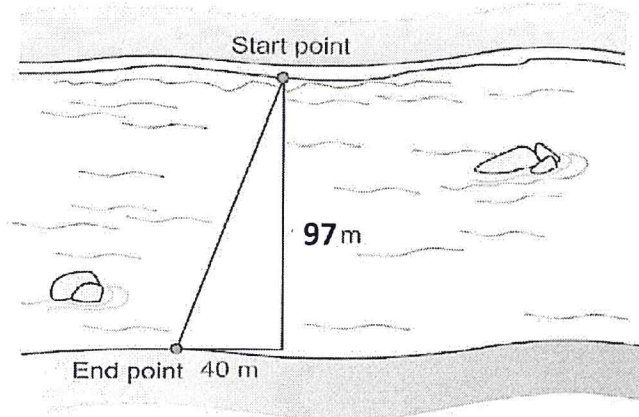
DIRECTIONS: Study the information and figure below. Then read each question, and choose the **best** answer.

A telephone pole is 26.8 feet tall. A cable attached to the top of the pole is anchored to the ground 15 feet away from the base of the pole.



DIRECTIONS: Study the information and diagram, read each question, and choose the **best** answer.

The river is **97** meters wide. Sara starts out swimming across the river. The current pushes her, so she ends up 40 meters downriver from where she started.



2. What is the length of the cable to the nearest tenth of a foot?

- A. 26.0
- B. 30.7
- C. 32.2
- D. 33.5

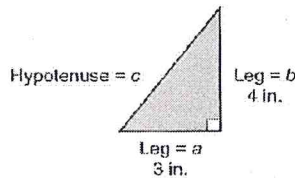
5. To the nearest whole meter, how many meters did Sara actually swim?

- A. 113
- B. 105
- C. 126
- D. 160

2 Practice the Skill

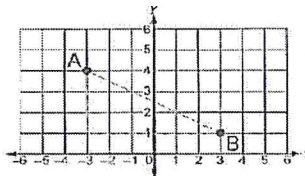
By practicing the skill of using the Pythagorean Theorem to find the missing side of a right triangle, you will improve your study and test-taking abilities, especially as they relate to the GED® Mathematical Reasoning Test. Read the examples and strategies below. Then answer the question that follows.

a) The Pythagorean Theorem is written:
 $a^2 + b^2 = c^2$
 where a and b are the legs, and c is the hypotenuse. The hypotenuse is always the side opposite the right angle. After solving for the missing side length, check to ensure that the hypotenuse has the greatest measure. Here, solve for c using the values for a and b .



$$\left. \begin{aligned} c^2 &= a^2 + b^2 \\ c^2 &= 3^2 + 4^2 \\ c^2 &= 9 + 16 \\ c^2 &= 25 \\ c &= \sqrt{25} \\ c &= 5 \end{aligned} \right\}$$

b) Use the Pythagorean Theorem to find the distance between points A and B. Count units to find the lengths of the legs, and use the Pythagorean Theorem to solve for the hypotenuse.
 $c^2 = 3^2 + 6^2$
 $c^2 = 45$
 $c = 6.7$



TEST-TAKING TIPS

If the sides of a triangle make the equation $a^2 + b^2 = c^2$ true, then the triangle proves to be a right triangle.

1. The bottom of a ladder is resting 5 feet from the wall of a garage. The wall and the ground form a right angle. If the ladder is 7.1 feet long, about how far up the wall does it reach?

- A. 5.0 ft
- B. 6.4 ft
- C. 8.7 ft
- D. 11.2 ft