

Directions: Complete each problem by utilizing Pythagorean theorem. Draw a diagram for each scenario. Show all work.

1. A rectangle has a **width** of 4 feet and a **length** of 6 feet. Find the length of the **diagonal** in feet.

Answer: $2\sqrt{13}$ feet

2. A rectangle has a **width** of 4 yards and a **length** of 5 feet. Find the length of the **diagonal** in feet.

Hint: Convert all units to feet first.

Answer: $\sqrt{41}$ feet

3. A rectangle has a **width** of 2 feet and a **diagonal** of 30 inches. Find the **length** of the rectangle in inches.

Hint: Convert all units to inches first.

Answer: 18 inches

4. Firefighters have a 17 foot extension ladder. In order to reach 15 feet up a building, how far away from the building should the foot of the ladder be placed?

Answer: 8 feet

Directions: Complete each problem by utilizing Pythagorean theorem. Draw a diagram for each scenario. Show all work.

5. You have locked yourself out of your house. You know that a window on the second floor is unlocked. The bottom of the window is 24ft above the ground. You also know that there is a flower garden directly below the window that extends out 7ft. At least how long must your ladder be to help you get in the house. (The ladder may not be placed inside the garden.)

Answer: 25 feet

6. George rides his bike 9 KM south and then 12 KM east. How far is he from his starting point?

Answer: 15 feet

7. Mark wants to swim across a river that is 40 meters wide. He begins swimming perpendicular to the shore he started from but ends up 30 meters down river from where he started because of the current. How far did he actually swim from his starting point?

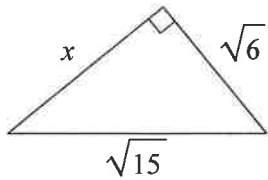
Answer: 50 meters

Geometry

Assignment A

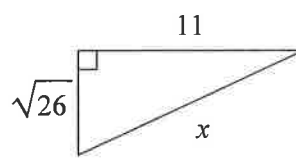
Find the missing side of each triangle. Leave your answers in simplest radical form.

1)



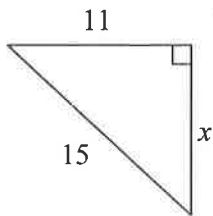
$x = 3$

2)



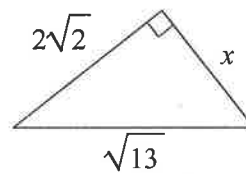
$x = 7\sqrt{3}$

3)



$x = 2\sqrt{26}$

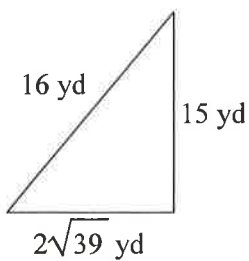
4)



$x = \sqrt{5}$

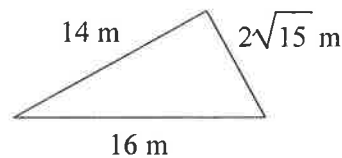
State if each triangle is acute, obtuse, or right.

5)



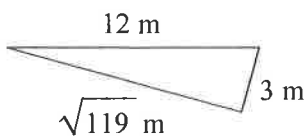
Acute

6)



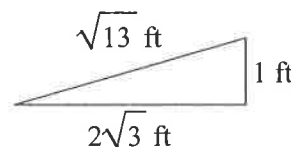
Right

7)



Obtuse

8)



Right

