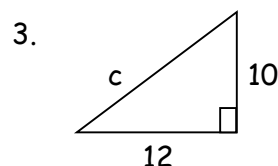
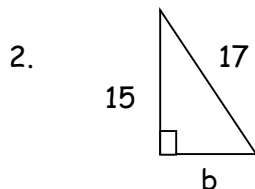
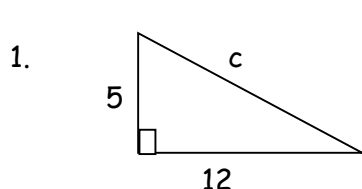


Name \_\_\_\_\_ Date \_\_\_\_\_ Period \_\_\_\_\_

### Pythagorean Theorem Problem Solving Practice

Find the missing leg or hypotenuse of the right triangle. Round answers to the nearest hundredth as needed.



The Pythagorean Theorem is also used to solve problems involving right triangle relationships. Use the theorem to solve the following problems.

4. A rectangle is 22 centimeters long and 5 centimeters wide. How long is the diagonal of the rectangle?

Draw picture here:

Check one:

I am looking for:

- ☐ the hypotenuse  
☐ a leg

Set up and solve equation here:

$$a^2 + b^2 = c^2$$

5. A box is 55 cm long and 30 cm wide. What is the length of the longest bat that could be packed to lie flat in the box? Round to the nearest hundredth (2 decimal places)?

Draw picture here:

Check one:

I am looking for:

- ☐ the hypotenuse  
☐ a leg

Set up and solve equation here:

$$a^2 + b^2 = c^2$$

6. Mrs. Pat has a rectangular flower garden that has a length of 30 feet. She runs a 31-foot hose diagonally across her garden. What is the width of Mrs. Pat's garden?

Draw picture here:

Check one:

I am looking for:

☐ the hypotenuse

☐ a leg

Set up and solve equation here:

$$a^2 + b^2 = c^2$$

7. A house painter has a 15-foot ladder that must be placed 9 feet from the house to comply with regulations. What is the height of the house if the ladder reaches the top of the house?

Draw picture here:

Check one:

I am looking for:

☐ the hypotenuse

☐ a leg

Set up and solve equation here:

$$a^2 + b^2 = c^2$$

8. A rectangle is 12 meters wide and 9 meters long. How long is its diagonal?

Draw picture here:

Check one:

I am looking for:

☐ the hypotenuse

☐ a leg

Set up and solve equation here:

$$a^2 + b^2 = c^2$$

9. A truck leaves I-4 and travels 40 miles west and then 30 miles north. How far is the truck from I-4?

Draw picture here:

Check one:

I am looking for:

☐ the hypotenuse

☐ a leg

Set up and solve equation here:

$$a^2 + b^2 = c^2$$

10. A 36-meter wire is attached to an upright pole 34 meters from the ground. How far from the pole must the wire be anchored in the ground?

Draw picture here:

Check one:

I am looking for:

☐ the hypotenuse

☐ a leg

Set up and solve equation here:

$$a^2 + b^2 = c^2$$

11. Selena leaves her house and walks north for 12 blocks. She then turns and heads west for a few blocks. If she ends up exactly 13 blocks from her house, how many blocks did she walk west?

Draw picture here:

Check one:

I am looking for:

☐ the hypotenuse

☐ a leg

Set up and solve equation here:

$$a^2 + b^2 = c^2$$

12. A soccer field has a length of 100 meters and a width of 50 meters. What is the distance from 1 corner of the field to the opposite corner? Round to the nearest hundredth (2 decimal places).

Draw picture here:

Check one:

I am looking for:

- ☐ the hypotenuse  
☐ a leg

Set up and solve equation here:

$$a^2 + b^2 = c^2$$

13. A cell tower is 48 feet tall. To decorate for Valentine's Day, they run a 60 feet string of heart lights from the top of the tower to the ground. How far from the base of the tower will the heart string of lights need to be placed in order to keep the string tight?

Draw picture here:

Check one:

I am looking for:

- ☐ the hypotenuse  
☐ a leg

Set up and solve equation here:

$$a^2 + b^2 = c^2$$

14. John and Joan, twin brother and sister, decide to play catch with a baseball in a field with a pond in the middle. John threw a baseball diagonally across the field to his sister Joan. Joan wanted to know how far John threw the ball. Since there was a pond in the middle of the field, they decided to measure the distance indirectly. They found the length of the field was 90 feet and the width was 60 feet. How far did John throw the baseball?

Draw picture here:

Check one:

I am looking for:

- ☐ the hypotenuse  
☐ a leg

Set up and solve equation here:

$$a^2 + b^2 = c^2$$