

# Pythagorean Theorem Applications

Name: \_\_\_\_\_

Answer the following questions with a complete sentence. Be sure to show your work.

1. You and a friend stand back-to-back. You run 20 feet forward, then 15 feet to your right. At the same time, your friend runs 16 feet forward, then 12 feet to her right. She stops and hits you with a snowball.

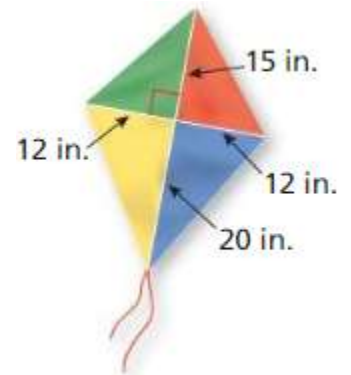
A. Draw a picture of the situation.

B. How far does your friend throw the snowball?

2. The fire escape forms a right triangle, as shown. Use the Pythagorean Theorem to approximate the distance between the two platforms.



4. You are making a kite and need to figure out how much binding to buy. You need the binding for the perimeter of the kite. The binding comes in packages of 2 yards. How many packages should you buy? (Note: 1 yard = 36 inches)



5. In Baseball, the lengths of the paths between consecutive bases are 90 feet, and the paths form right angles. The player on first base tries to steal second base. The catcher throws the ball from home plate to second base.

A. Draw a picture of the situation.

B. How far does the ball need to travel from home plate to second base to get the player out?

6. The bottom of a ladder must be placed 3 feet from a wall. The ladder is 10 feet long.

A. Draw a picture of the situation.

B. How far above the ground does the ladder touch the wall?

7. A park is in the shape of a rectangle, 8 miles long and 6 miles wide. How much shorter is your walk, if you walk diagonally across the park instead of walking along the two sides of the park?