

Math 7
Date _____

Name _____
Period _____

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

Directions: Draw a picture of the problem. Using the Pythagorean Theorem, solve for the variable. SHOW ALL WORK.

1. A 100-ft. ladder is placed 60 feet from a wall. How far up the wall will the ladder reach?

2. A car travels 5 miles east and then 12 miles north. How far is it from the starting point?

3. Toby attached a rope from the top of a 20-foot pole and tied it down 15 feet from the base of the pole. How long is the rope?
4. What is the **approximate** distance the catcher throws to second base if the distance between bases is 90 feet?
5. In the installation of an antenna 16 feet high, the 20 foot wire that must reach from the top of the antenna to a point on the roof. What is the furthest distance from the foot of the antenna should the wire be attached?

6. Mr. Hartwell plans to brace his 4 ft. by 7ft garage door by nailing a board diagonally across. **Approximately** how long a board does he need to reach from corner to corner?

7. Mr. Edwards is unloading the contents from his moving truck. The deck of the truck is 3.5 feet above the ground, and he is using a 9-foot ramp. **Estimate** how far from the truck the ramp will extend along the ground.