

Pythagorean Theorem: Applications

- 1) A mascot runs diagonally across a basketball court from one corner to the opposite corner. The court is 84 feet long and 50 feet wide. What is the distance the mascot travels between the corners?
- 2) A 15 foot ladder leans against the wall of a building. The foot of the ladder is positioned 9 feet from the wall. How far up the wall does the ladder touch the building?
- 3) A guy wire runs from the top of a tower that is 45 m tall. It attaches to a concrete block on the ground that sits 15 m from the base of the tower. How long is the wire?
- 4) Tom is flying a kite and has released 75 yds of string. He is standing 42 yds from Bill who is standing directly beneath the kite. Assuming the string is taut, what is the height of the kite from the ground?
- 19) Sally is at the top of the Leaning Tower of Pisa and drops a ball to a Billy 179 ft below. If Billy is standing 16 feet from the base of the tower, how tall is the tower of Pisa?
- 5) Sally is at the top of the Leaning Tower of Pisa and drops a ball to a Billy 179 ft below. If Billy is standing 16 feet from the base of the tower, how tall is the tower of Pisa?
- 6) The Statue of Liberty is 350 feet tall. Looking to the top of the statue, a tourist's line of sight reaches 485 feet. How far away is the tourist from the base of the Statue of Liberty?
- 7) Tourists at the Eiffel Tower may reach the 2nd floor by stairs or elevator. The elevator (directly beneath the tallest point) travels 350 ft straight up, whereas the stairs travel diagonally from one of the tower's legs. If the entrance to the stairs is 131 feet away from the elevator, how far must a person travel to the 2nd floor of the Eiffel Tower?
- 20) The Statue of Liberty is 350 feet tall. Looking to the top of the statue, a tourist's line of sight reaches 485 feet. How far away is the tourist from the base of the Statue of Liberty?
- 8) A satellite signal travels 1,340 miles to John's TV antenna. John's out-of-state parents live 600 miles away and use the same satellite for their TV. If the satellite passes directly over John's parent's house, how high above Earth is the satellite orbiting?
- 9) A person parasailing behind a boat is being towed by a cord that is 160 ft long. At high noon the parasailor's shadow lies 110 ft. behind the boat. How high is he above the water?
- 10) A biologist sights on bird perched on a 30 foot power pole. She is standing 235 feet from the pole. How far will the tranquilizer dart have to travel to reach the bird?
- 11) A plane is flying over a bridge at an altitude of 640m. From that point, the plane descends to the airport for 1,230m. How far away is the bridge from the airport?

12) A fire engine's ladder is fully extended and leaning against a burning building. The ladder is 57 ft long and rests against the building 40 ft above the ground. How far is the ladder from the base of the building?