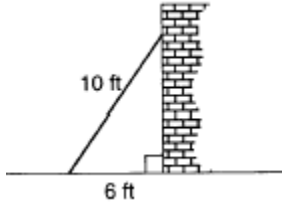
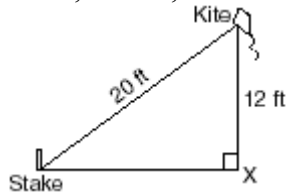


Applications of the Pythagorean Theorem

1. A right triangle has a hypotenuse of length 10 and a leg of length 5. Find the length of the other leg. Leave your answer in simplest radical form.
2. A wall is supported by a brace 10 feet long, as shown in the diagram below. If one end of the brace is placed 6 feet from the base of the wall, how many feet up the wall does the brace reach?



3. The accompanying diagram shows a kite that has been secured to a stake in the ground with a 20-foot string. The kite is located 12 feet from the ground, directly over point X . What is the distance, in feet, between the stake and point X ?



4. If the length of a rectangular television screen is 20 inches and its height is 15 inches, what is the length of its diagonal, in inches?
5. A builder is building a rectangular deck with dimensions of 16 feet by 30 feet. To ensure that the sides form 90° angles, what should each diagonal measure?
6. A cable 20 feet long connects the top of a flagpole to a point on the ground that is 16 feet from the base of the pole. How tall is the flagpole?
7. Jeff walked 7 km north and 3 km west. Express, in radical form, how far Jeff was from his starting point.