

3-6 Word Problem Practice**Using the Pythagorean Theorem***Draw the picture and solve each. Include exact and**approximate answers.*

1. RECREATION A pool table is 8 feet long and 4 feet wide. How far is it from one corner pocket to the diagonally opposite corner pocket? Round to the nearest tenth.

2. TRIATHLON The course for a local triathlon has the shape of a right triangle. The legs of the triangle consist of a 4-mile swim and a 10-mile run. The hypotenuse of the triangle is the biking portion of the event. How far is the biking part of the triathlon? Round to the nearest tenth if necessary.

3. LADDER A ladder 17 feet long is leaning against a wall. The bottom of the ladder is 8 feet from the base of the wall. How far up the wall is the top of the ladder? Round to the nearest tenth if necessary.

4. TRAVEL Tara drives due north for 22 miles then east for 11 miles. How far is Tara from her starting point? Round to the nearest tenth if necessary.

5. FLAGPOLE A wire 30 feet long is stretched from the top of a flagpole to the ground at a point 15 feet from the base of the pole. How high is the flagpole? Round to the nearest tenth if necessary.

6. ENTERTAINMENT Isaac's television is 25 inches wide and 18 inches high. What is the diagonal size of Isaac's television? Round to the nearest tenth if necessary.

3-7**Word Problem Practice****Distance on the Coordinate Plane**

Show all work on notebook paper.
Include exact and approximate answers.

1. ARCHAEOLOGY An archaeologist at a dig sets up a coordinate system using string. Two similar artifacts are found—one at position $(1, 4)$ and the other at $(5, 2)$. How far apart were the two artifacts? Round to the nearest tenth of a unit if necessary.

2. GARDENING Vega set up a coordinate system with units of feet to locate the position of the vegetables she planted in her garden. She has a tomato plant at $(1, 3)$ and a pepper plant at $(5, 6)$. How far apart are the two plants? Round to the nearest tenth if necessary.

3. CHESS April is an avid chess player. She sets up a coordinate system on her chess board so she can record the position of the pieces during a game. In a recent game, April noted that her king was at $(4, 2)$ at the same time that her opponent's king was at $(7, 8)$. How far apart were the two kings? Round to the nearest tenth of a unit if necessary.

4. MAPPING Cory makes a map of his favorite park, using a coordinate system with units of yards. The old oak tree is at position $(4, 8)$ and the granite boulder is at position $(-3, 7)$. How far apart are the old oak tree and the granite boulder? Round to the nearest tenth if necessary.

5. TREASURE HUNTING Taro uses a coordinate system with units of feet to keep track of the locations of any objects he finds with his metal detector. One lucky day he found a ring at $(5, 7)$ and an old coin at $(10, 19)$. How far apart were the ring and coin before Taro found them? Round to the nearest tenth if necessary.

6. GEOMETRY The coordinates of points A and B are $(-7, 5)$ and $(4, -3)$, respectively. What is the distance between the points, rounded to the nearest tenth?

7. GEOMETRY The coordinates of points A , B , and C are $(5, 4)$, $(-2, 1)$, and $(4, -4)$, respectively. Which point, B or C , is closer to point A ?

8. THEME PARK Tom is looking at a map of the theme park. The map is laid out in a coordinate system. Tom is at $(2, 3)$. The roller coaster is at $(7, 8)$, and the water ride is at $(9, 1)$. Is Tom closer to the roller coaster or the water ride?