Name _____ Date _____ Class _____

LESSON 8-8

Problem Solving

The Pythagorean Theorem

Write the correct answer.

1. During a storm, a tree falls toward a house. The top of the tree leans against the house 45 feet above the ground. The distance on the ground from the house to the base of the tree is 24 feet. What is the height of the tree?

_____

2. During a training exercise, a firefighter leans a 40-foot ladder up to a window in a house. The bottom of the ladder is 24 feet from the bottom of the house. How high is the window from the ground?

_____

3. A triangle has a hypotenuse of 25 centimeters and a base of 20 centimeters. What is the area of this right triangle?

_____

4. The football field at the University of Texas at Arlington is 60 yards by 100 yards. Is the length of the diagonal across this field more or less than 200 yards? Explain.

_____

_____

Choose the letter of the correct answer.

5. The minimum size of a soccer field for players under 8 years of age is 20 yards by 30 yards. About how far is the diagonal distance on a field with these dimensions?

A about 12 yd C about 36 yd
B about 25 yd D about 45 yd

6. The minimum size of a soccer field for international matches is 70 yards by 110 yards. If a player runs diagonally across this field, about how much farther does she run than if the field were 50 yards by 100 yards?

F about 242 yd H about 112 yd
G about 130 yd J about 19 yd

7. In the state of Virginia, Winchester is 21 miles north of Front Royal. Arlington is 58 miles east of Front Royal. What is the distance to the nearest mile from Winchester to Arlington?

A 37 mi C 89 mi
B 62 mi D 441 mi

8. On a child's slide, the distance from the bottom rung to the top of the ladder is 6 feet. The straight distance from the bottom rung of the ladder to the bottom of the slide is 36 inches. About how long is the slide?

F about 6.7 ft H about 9.0 ft
G about 8.4 ft J about 36.5 ft