

Chapter 2 Pythagorean Theorem II Applications and the Converse

Worksheet C Mixed Practice and Application

Name: _____ Grade: _____ Date: _____

1. Name the Case First

For each problem, write the case before solving.

a. A right triangle has legs 20 cm and 21 cm. Find the hypotenuse.

b. A right triangle has hypotenuse 29 m and one leg 20 m. Find the other leg.

c. A triangle has side lengths 10, 24, and 26. Check whether it is right-angled.

2. Ladder Problem

A 15 m ladder leans against a wall.

The bottom is 9 m from the wall.

a. Draw or describe the right triangle.

b. Which side is the hypotenuse?

c. Find how high the ladder reaches.

3. Rectangle Diagonal

A rectangular screen is 16 cm wide and 30 cm tall.

Find the diagonal length.

4. Coordinate Grid Distance

Point A is at (2,3).

Point B is at (8,11).

a. Find the horizontal distance.

b. Find the vertical distance.

c. Find the distance from A to B.

5. Student Error

A student says:

“The side lengths 9, 12, and 14 make a right triangle because $9^2 + 12^2 = 15^2$.”

Explain the mistake.

6. Wrong Hypotenuse

A student checks side lengths 6, 8, and 10, but uses 8 as c .

Explain why that setup is wrong and check the triangle correctly.
