



Using Pythagoras

GRADE 8 MATH

Name _____

Date _____

Label the hypotenuse first. Check every leg answer against it.

WORKED EXAMPLE

Hypotenuse missing $\Rightarrow$ add. Leg missing $\Rightarrow$ subtract. Take the square root. A leg is never longer than the hypotenuse. For distance, the legs are the coordinate differences.

1. Legs 5 and 12. Find the hypotenuse.

FLUENCY

Show your thinking

Answer

2. Hypotenuse 26, one leg 10. Find the other leg, and check it.

APPLICATION

Show your thinking

Answer

3. Legs 1 and 1. Give the hypotenuse squared.

APPLICATION

Show your thinking

Answer

4. Find the distance between $(2, -3)$ and $(7, 9)$.

APPLICATION

Show your thinking

Answer

5. A ladder 10 m long leans against a wall with its foot 6 m from the base. How far up the wall does it reach?

APPLICATION

Show your thinking

Answer

6. Priya finds a leg of 15 for a triangle whose hypotenuse is 12. Without redoing her calculation, say how you know she is wrong.

REASONING

Show your thinking

Answer

7. A room is 6 m by 8 m by 3 m high. Find the distance from one bottom corner to the opposite top corner.

APPLICATION

Show your thinking

Answer

8. Why is the distance formula not a new formula to learn?

REASONING

Show your thinking

Answer