

Multi-step Pythagoras Problems



Find a hidden dimension first, then use Pythagoras' theorem again to find the final answer.

Name _____

Date _____

Show both steps

Write both Pythagoras equations clearly. Find the hidden side first, then use it to find x .

Worked example Find x .



Step 1: Find the hidden side.

$$3^2 + \text{hidden}^2 = 5^2$$

$$9 + \text{hidden}^2 = 25$$

$$\text{hidden} = 4$$

Step 2: Find x using the hidden side.

$$4^2 + 4^2 = x^2$$

$$16 + 16 = x^2$$

$$x = \sqrt{32} \approx 5.7$$

1. Find x .



2. Find x .



3. Find x .



4. Find x .



5. Find x .



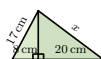
6. Find x .



7. Find x .



8. Find x .



9. Find x .



10. Find x .



11. A square has area 49 cm^2 .
Find the side, then the diagonal.

12. A rectangle is 5 cm by 12 cm. Find the diagonal, then the perimeter.

13. Find x .



14. Find x .



15. Find x .



16. An isosceles triangle has equal sides 13 cm and base 24 cm. Find the height, then the area.

17. A right-angled triangle has legs 7 m and 24 m. Find the hypotenuse, then the area.

18. A square has diagonal 10 m. Find the side length, then the area to 1 d.p.
