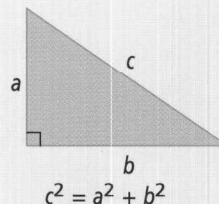


Day 3 - Questions Handout

#s 5 - 12

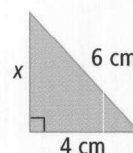
Key Ideas

- The Pythagorean relationship connects the three sides of any right triangle.
- The Pythagorean equation can be used to find the length of one of the sides of a right triangle if the other two sides are known.



Communicate the Ideas

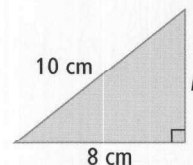
- Describe the steps you would use to find the length x .
 - Estimate the value of x . Between which two whole numbers is it?



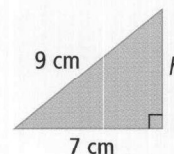
- To find the length b , Crystal wrote

$$b^2 = 10^2 + 8^2$$

Is her method correct? If not, explain what she did wrong.



- Darian wants to find the height, h , of this triangle. His method is to enter $\sqrt{81 - 49}$ into his calculator. Will his answer be correct? Explain why or why not.

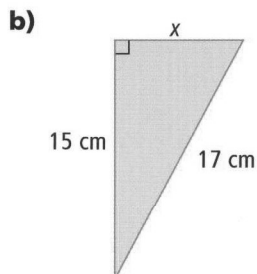
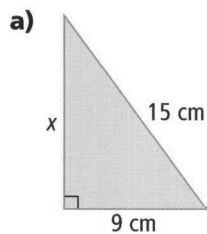


Check Your Understanding

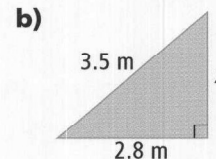
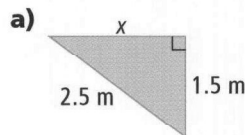
Practise

For help with questions 4 to 7, refer to Examples 1 and 2.

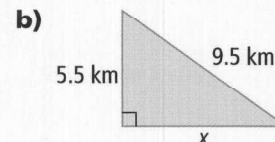
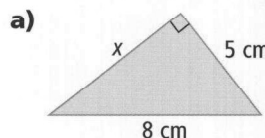
- Find the length of the missing side in each triangle.



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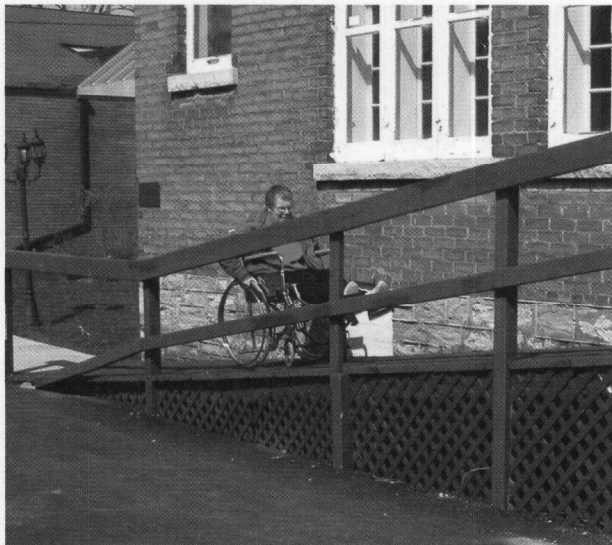


- Find the length of the missing side in each triangle. Round your answers to the nearest tenth.

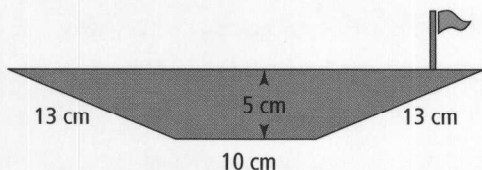


Apply

7. A wheelchair ramp is 9.6 m long. The horizontal distance it spans is 9.5 m. What vertical height does the ramp let a person rise? Round your answer to the nearest tenth.



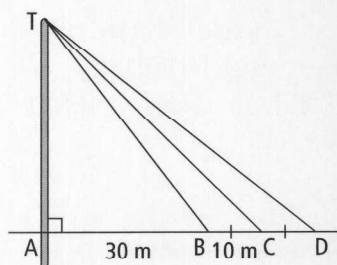
8. Dev plans to build a toy boat for his younger brother. The side view of his plan is shown. What length of wood will he need to cut to make the top deck of the boat?



9. A square park has diagonal paths that are each 48 m long.
- What is the perimeter of the park, to the nearest metre?
 - What is the area of the park?
10. Max was preparing to install a new pane of glass in the living room window. It measured 1.3 m by 1.5 m. He noticed a scratch that stretched across half the diagonal of the glass. Approximately how long was the scratch?

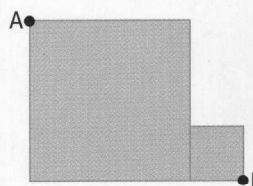


11. Many steel cables are used to support a suspension bridge. In the diagram, three of the cables are shown.
- Cable TB is 50 m long. Find the height of the tower, TA.
 - Find the length of cables TC and TD.
 - How much longer is cable TC than cable TB? Can you add this amount to the length of TC to find the length of TD? Explain.



Extend

12. Find the shortest distance from A to B if the larger square has a perimeter of 36 cm and the smaller square has an area of 9 cm^2 .



13. A ramp 3.5 m long is used to load furniture onto the back of a truck. One end of the ramp rests on a porch, which is 0.5 m off the ground. The other end of the ramp, leading into the back of the truck, is 1.0 m above the ground. What is the horizontal distance from the back of the truck to the edge of the porch, to the nearest tenth?

