Question 1:

Find the length of the diagonal of a rectangle of length 28 cm and width 9 cm. (Answer correct to 1 decimal place.)

Question 2:

Find the length of the diagonal of a square of side length 7 cm. (Answer correct to 1 decimal place.)
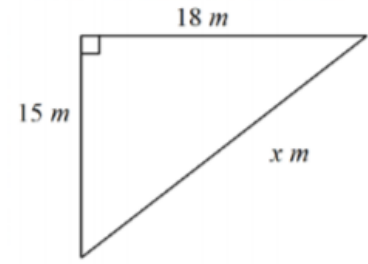
Question 3:

What is the altitude of an equilateral triangle whose sides are each 12 cm? (Answer correct to 2 decimal places.)

Question 4:

A 6 metre ladder rests against a wall and its foot is 3 metres away from the base of the wall. How high does the ladder reach up the wall? (Answer correct to 2 decimal places.)

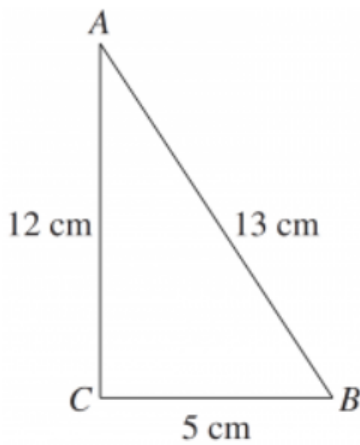3. The length of the unknown side, correct to 1 decimal place, is:

- 9.9 m
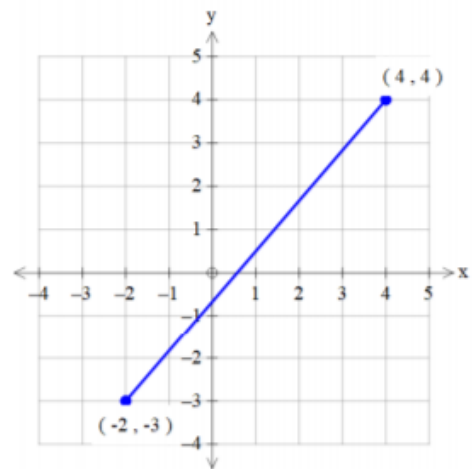- 15.1 m
- 22.5 m
- 23.4 m

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(i) Use Pythagoras' theorem to show that $\triangle ABC$ is a right-angled triangle.

12. For this line segment:

b) Find the length of the segment, correct to one decimal places. **2**

15. Two poles 2.8 m and 5 m in height are located 3 m apart. A wire links the tops of the poles.
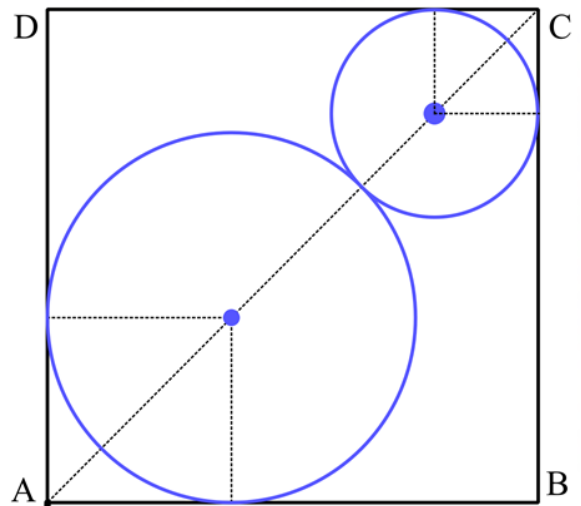

a) Label the diagram with the information given. **1**

b) Find the length of the wire. **2**

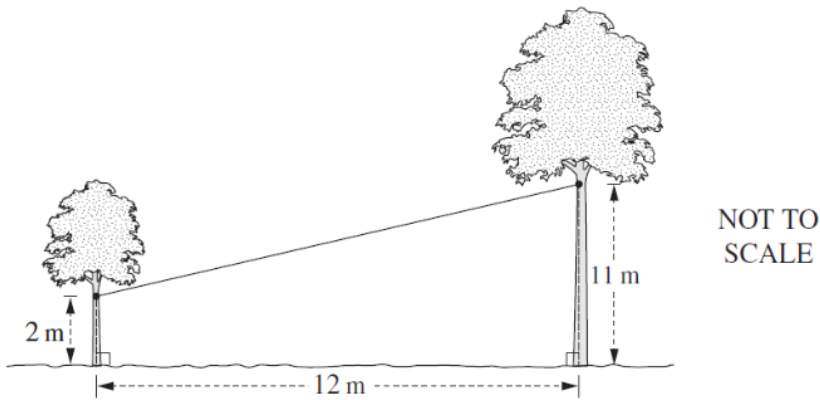**Question 5:** two circles of radius 4 cm and 6 cm are placed inside a square.
a) Annotate the diagram
b) Find the exact length of AC
c) Find the perimeter of the square to the nearest centimetre.

Two trees on level ground, 12 metres apart, are joined by a cable. It is attached 2 metres above the ground to one tree and 11 metres above the ground to the other.

What is the length of the cable between the two trees, correct to the nearest metre?

(A) 9 m

(B) 12 m

(C) 15 m

(D) 16 m

6 Find the exact value (as a surd) of a in this diagram. (Pythagoras' theorem is required.)