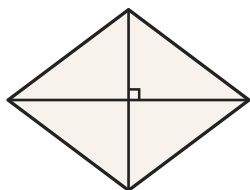


Pythagoras: Finding the Hypotenuse

1



The diagonals of this rhombus are 12 cm and 9 cm. Work out the length of one side of the rhombus.



Not drawn accurately

the diagonals cut each other in half at right angles: 6 and 4.5

$$\sqrt{6^2 + 4.5^2} = \sqrt{56.25}$$

7.5 cm

Answer

2



A square has an area of 72 cm^2 . Work out the length of its diagonal.

$$\text{side}^2 = 72, \text{ so diagonal}^2 = 72 + 72 = 144$$

$$\sqrt{144}$$

12 cm

Answer

3



Work out the distance between the points $(-4, 3)$ and $(5, -1)$. Give your answer to 1 decimal place.

$$\text{across } 5 - (-4) = 9, \text{ down } 3 - (-1) = 4$$

$$\sqrt{9^2 + 4^2} = \sqrt{97}$$

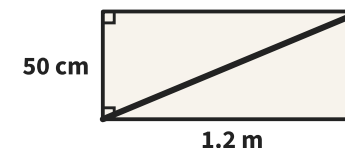
9.8 units

Answer

4



A rectangular gate has a straight wooden brace from one corner to the opposite corner. How long is the brace?



Not drawn accurately

$$1.2 \text{ m} = 120 \text{ cm}$$

$$\sqrt{120^2 + 50^2} = \sqrt{16900}$$

130 cm

Answer

5



A rectangle has a perimeter of 62 cm and a length of 24 cm. Work out the length of its diagonal.

$$\text{width} = 62 \div 2 - 24 = 7 \text{ cm}$$

$$\sqrt{24^2 + 7^2} = \sqrt{625}$$

25 cm

Answer

6



A delivery robot drives 3 m east, 5 m north, 4 m east and then 1 m north. How far is it from where it started, in a straight line? Give your answer to 1 decimal place.

$$7 \text{ m east and 6 m north altogether}$$

$$\sqrt{7^2 + 6^2} = \sqrt{85}$$

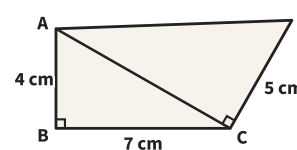
9.2 m

Answer

7



Work out the perimeter of the quadrilateral ABCD. Give your answer to 1 decimal place.



Not drawn accurately

$$AC^2 = 4^2 + 7^2 = 65$$

$$AD = \sqrt{65 + 5^2} = \sqrt{90} = 9.49 \text{ cm}$$

$$4 + 7 + 5 + 9.49$$

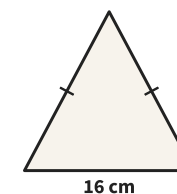
25.5 cm

Answer

8



This isosceles triangle has an area of 120 cm^2 . Work out its perimeter.



16 cm

Not drawn accurately

$$\text{height} = 120 \times 2 \div 16 = 15 \text{ cm}$$

$$\text{sloping side} = \sqrt{8^2 + 15^2} = 17 \text{ cm}$$

$$16 + 17 + 17$$

50 cm

Answer