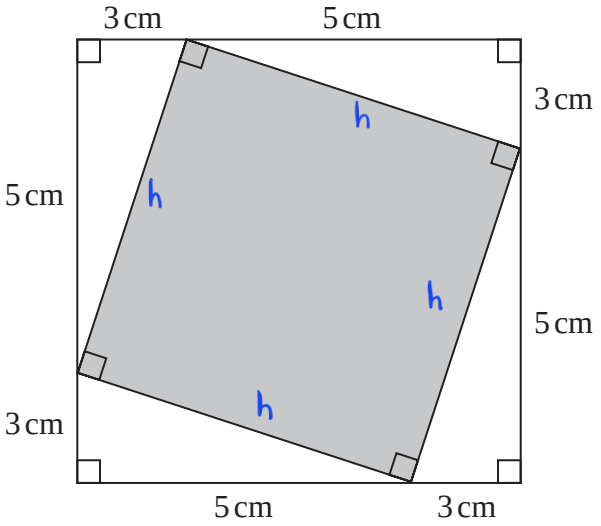
1 This diagram shows two squares.





$h^2 = a^2 + b^2$

Work out the area of the square shown shaded in the diagram.

work out Pythagoras to find length h

$h^2 = a^2 + b^2$

$h^2 = 3^2 + 5^2$ (1)

$h^2 = 34$

$h = \sqrt{34}$ (1)

Use the h value found to calculate the area of shaded region

Area of shaded region : $A = h \times h$

$= \sqrt{34} \times \sqrt{34}$

$= 34 \text{ cm}^2$ (1)

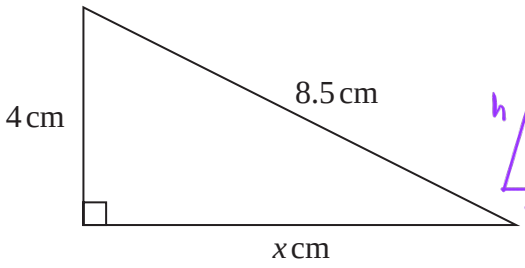
(1)

34 cm^2

.....

(Total for Question 1 is 4 marks)

2 Here is a right-angled triangle.



Pythagoras theorem

$a^2 + b^2 = h^2$



Work out the value of x.

$a^2 + b^2 = h^2$

$4^2 + x^2 = 8.5^2$

$x^2 = 8.5^2 - 4^2$ (1)

$= 72.25 - 16$

$x^2 = 56.25$

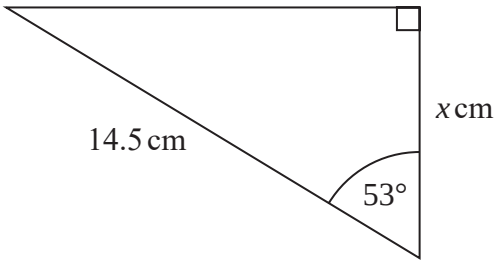
$x = \sqrt{56.25}$

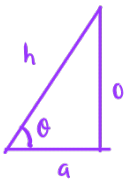
$= 7.5$ (1)

$x =$ 7.5

(Total for Question 2 is 2 marks)

3





$\cos\theta = \frac{a}{h}$

$\sin\theta = \frac{o}{h}$

$\tan\theta = \frac{o}{a}$

choose method which has both a and h. (cos)

Work out the value of x.
Give your answer correct to 3 significant figures.

$\cos 53^\circ = \frac{x}{14.5}$

$x = 14.5 \cos 53^\circ$ (1)

$= 8.73$ (1)

$x =$ 8.73

(Total for Question 3 is 2 marks)