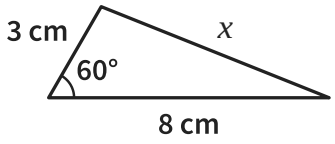
The cosine rule: finding a side

1

Find x.



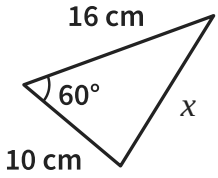
$x^2 =$ $3^2 + 8^2 - 2 \times 3 \times 8 \times \cos 60°$

$x^2 =$ 49

$x =$ _____

2

Find x.



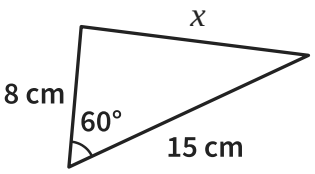
$x^2 =$ $10^2 + 16^2 - 2 \times 10 \times 16 \times \cos 60°$

$x^2 =$ _____

$x =$ _____

3

Find x.



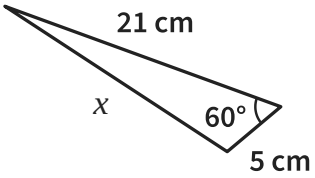
$x^2 =$ _____

$x^2 =$ _____

$x =$ _____

4

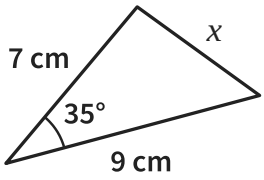
Find x.



$x =$ _____

5

Find x to 1 decimal place.



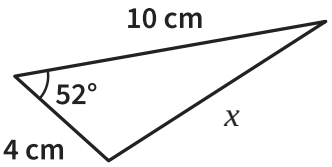
$x^2 =$ $7^2 + 9^2 - 2 \times 7 \times 9 \times \cos 35°$

$x^2 =$ _____

$x =$ _____

6

Find x to 1 decimal place.



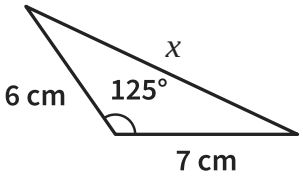
$x^2 =$ _____

$x^2 =$ _____

$x =$ _____

7 *Notice the change!*

Find x to 1 decimal place.



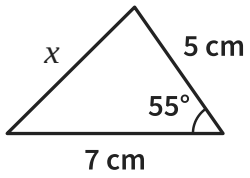
$x =$ _____

8

Kai finds x like this:

$x^2 = (5^2 + 7^2 - 2 \times 5 \times 7) \times \cos 55°$.

Explain his mistake and find x.



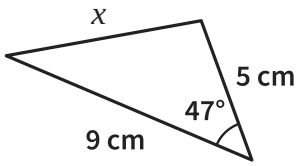
$x^2 =$ _____

$x =$ _____

The cosine rule: finding a side *further practice*

9

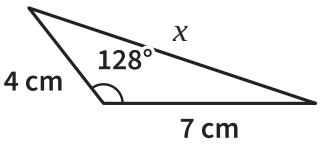
Find x to 1 decimal place.



Answer _____

10

Find x to 1 decimal place.



Answer _____

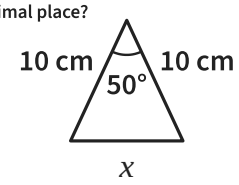
11

In triangle ABC, AB = 6 cm, AC = 11 cm and angle BAC = 38°. Find BC to 1 decimal place.

BC = _____

12

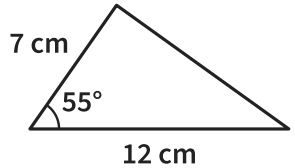
The two legs of a pair of compasses are each 10 cm long. They are opened to an angle of 50°. How far apart are the point and the pencil, to 1 decimal place?



Answer _____

13

Find the perimeter of the triangle to 1 decimal place.



Answer _____

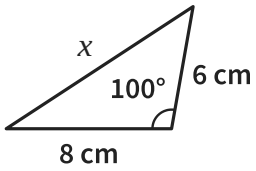
14

Two fences of a triangular field are 45 m and 60 m long. They meet at an angle of 80°. How long is the third fence, to 1 decimal place?

Answer _____

15

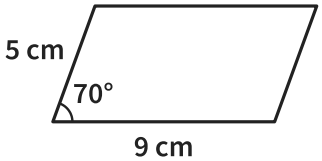
Without working out x, explain whether x is more or less than 10 cm. Then check.



So _____

16

A parallelogram has sides 5 cm and 9 cm and an angle of 70°.
Find the length of its longer diagonal to 1 decimal place.



Diagonal _____