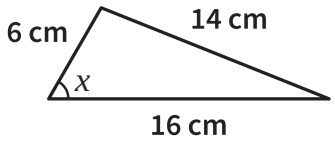
The cosine rule

1

Find angle x.



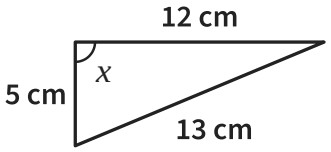
$\cos x = \frac{6^2 + 16^2 - 14^2}{2 \times 6 \times 16}$

$\cos x = 0.5$

$x =$ _____

2

Find angle x.



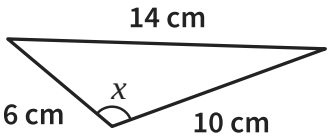
$\cos x = \frac{5^2 + 12^2 - 13^2}{2 \times 5 \times 12}$

$\cos x =$ _____

$x =$ _____

3

Find angle x.



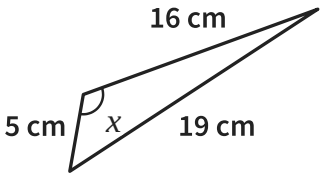
$\cos x =$ _____

$\cos x =$ _____

$x =$ _____

4

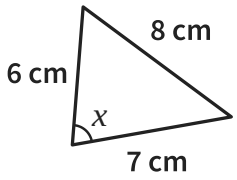
Find angle x.



$x =$ _____

5

Find angle x to 1 decimal place.



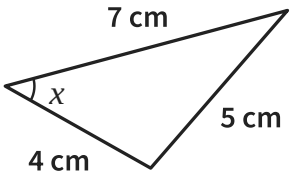
$\cos x = \frac{6^2 + 7^2 - 8^2}{2 \times 6 \times 7}$

$\cos x =$ _____

$x =$ _____

6

Find angle x to 1 decimal place.



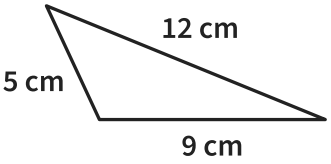
$\cos x =$ _____

$\cos x =$ _____

$x =$ _____

7 *Notice the change!*

Find the largest angle to 1 decimal place.



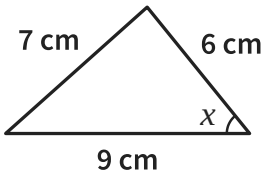
_____

$\cos =$ _____

Angle = _____

8

Lily finds angle x like this:
$\cos x = (6^2 + 7^2 - 9^2) \div (2 \times 6 \times 7)$.
Explain her mistake and find x.



_____

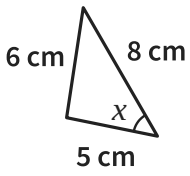
$\cos x =$ _____

$x =$ _____

The cosine rule *further practice*

9

Find angle x to 1 decimal place.



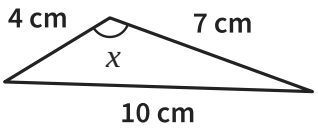
_____

_____

Answer _____

10

Find angle x to 1 decimal place.



_____

_____

Answer _____

11

In triangle PQR, PQ = 7 cm, QR = 9 cm and PR = 5 cm. Find angle PQR to 1 decimal place.

_____

_____

Angle PQR = _____

12

A triangle has sides 8 cm, 11 cm and 13 cm. Find its smallest angle to 1 decimal place.

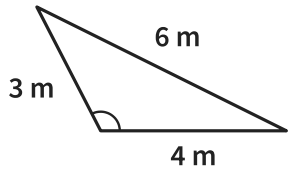
_____

_____

Answer _____

13

A flowerbed is a triangle with sides 3 m, 4 m and 6 m. Find the angle between the 3 m and 4 m sides to 1 decimal place.



_____

_____

Answer _____

14

The end of a roof is a triangle with two sloping sides of 7 m and a base of 10 m. Find the angle at the top to 1 decimal place.

_____

_____

Answer _____

15

A triangle has sides 5 cm, 6 cm and 8 cm. Is it acute or obtuse?
Show how you know.

_____

_____

So _____

16

Sam tries to find the largest angle of a triangle with sides 3 cm, 4 cm and 8 cm. His calculator gives an error.
Explain why.

_____

_____

_____

So _____