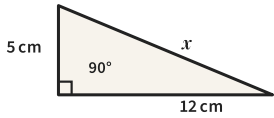


The Cosine Rule



1

Sides 5 cm and 12 cm with 90° between them. Find x .

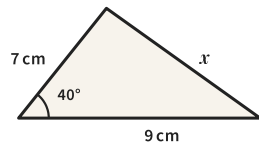


$$x^2 = 5^2 + 12^2 = \square$$

so $x =$ _____

2

Find x to 1 decimal place.

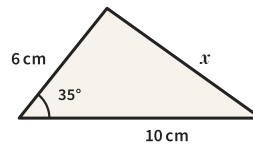


$$x^2 = 7^2 + 9^2 - 2 \times 7 \times 9 \times \cos 40^\circ$$

Answer _____

3

Find x to 1 decimal place.

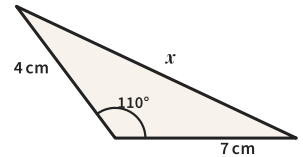


$$x^2 = 6^2 + 10^2 - 2 \times 6 \times 10 \times \cos 35^\circ$$

Answer _____

4

Find x to 1 decimal place.

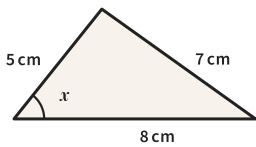


$$x^2 = 4^2 + 7^2 - 2 \times 4 \times 7 \times \cos 110^\circ$$

Answer _____

5

Find angle x to 1 decimal place.

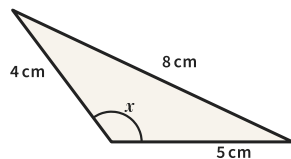


$$\cos x = \frac{5^2 + 7^2 - 8^2}{2 \times 5 \times 7}$$

Answer _____

6

Find angle x to 1 decimal place.

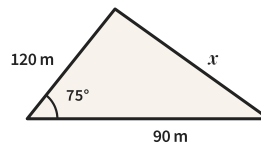


$$\cos x = \frac{4^2 + 8^2 - 5^2}{2 \times 4 \times 8}$$

Answer _____

7

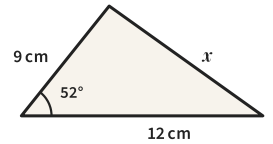
Two paths leave a gate. One is 120 m long and the other is 90 m. The angle between them is 75° . How far apart are the ends of the paths?



Answer _____

8

Find the perimeter of the triangle to 1 decimal place.



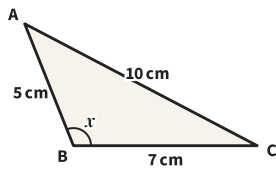
Answer _____

The Cosine Rule *further practice*



9

Find angle ABC, marked x , to 1 decimal place.



Answer _____

10

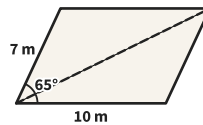
The hour hand of a clock is 6 cm long and the minute hand is 9 cm long. How far apart are their tips at 4 o'clock? Give your answer to 1 decimal place.



Answer _____

11

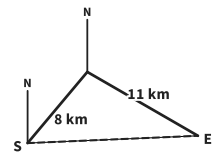
A garden is a parallelogram with sides 10 m and 7 m and an angle of 65° . A path runs along the longer diagonal (dashed). How long is the path, to 1 decimal place?



Answer _____

12

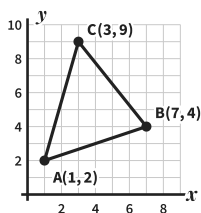
A ship sails 8 km from S on a bearing of 040° . It then sails 11 km on a bearing of 120° to E. How far is E from S, to 1 decimal place?



Answer _____

13

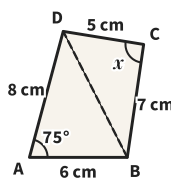
A is (1, 2), B is (7, 4) and C is (3, 9). Find angle ABC to 1 decimal place.



Answer _____

14

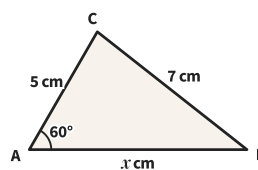
Find angle BCD, marked x , to 1 decimal place.



Answer _____

15

Use the cosine rule to find x . ($\cos 60^\circ = \frac{1}{2}$)



Answer _____

16

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

So _____