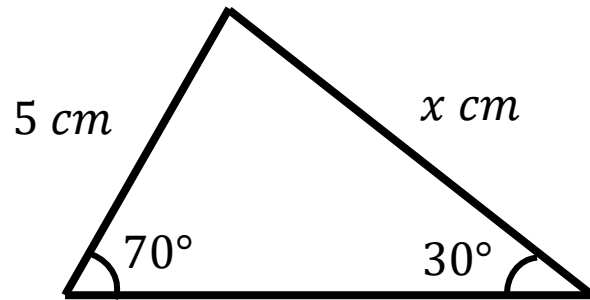


Trigonometry (advanced) – sine/cosine rules and area

CONTENTS

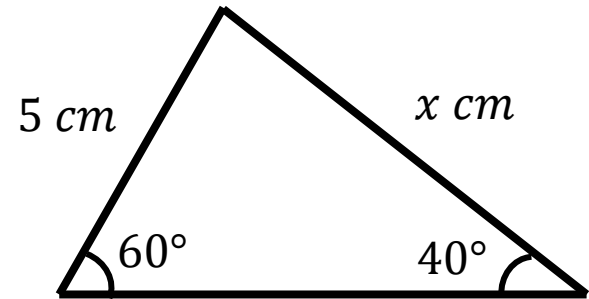
Worked example

Find the value of x



Your turn

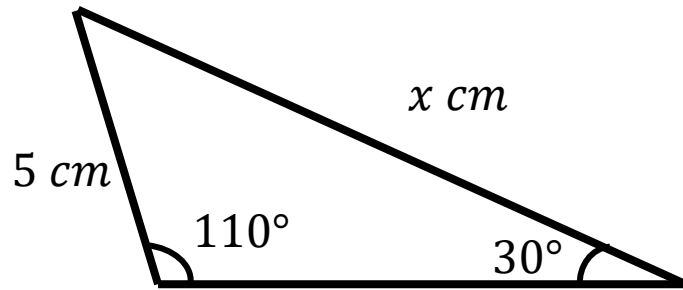
Find the value of x



$$x = 6.74 \text{ (2 dp)}$$

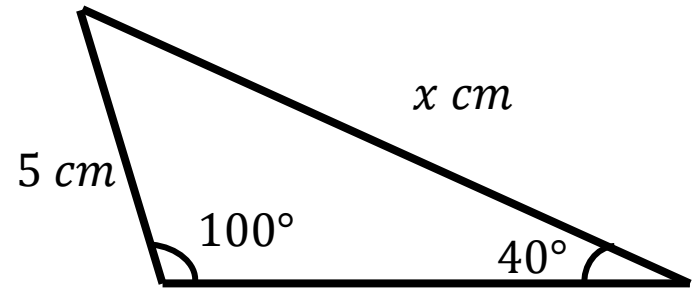
Worked example

Find the value of x



Your turn

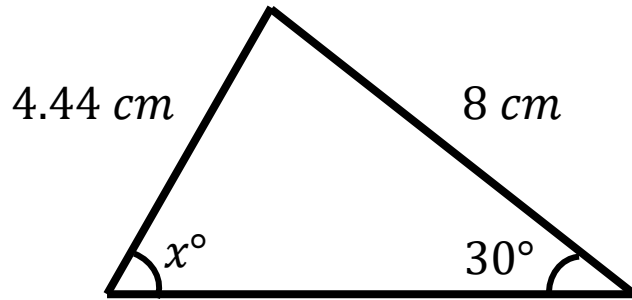
Find the value of x



$$x = 7.66 \text{ (2 dp)}$$

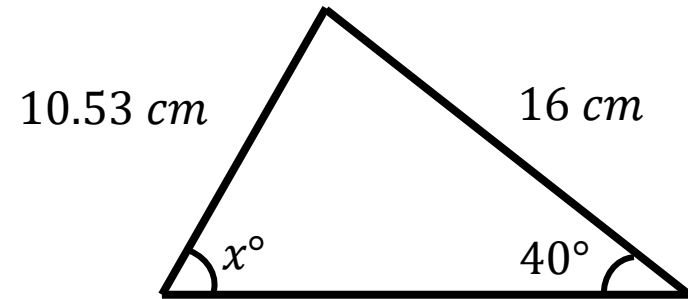
Worked example

Find the possible values of x



Your turn

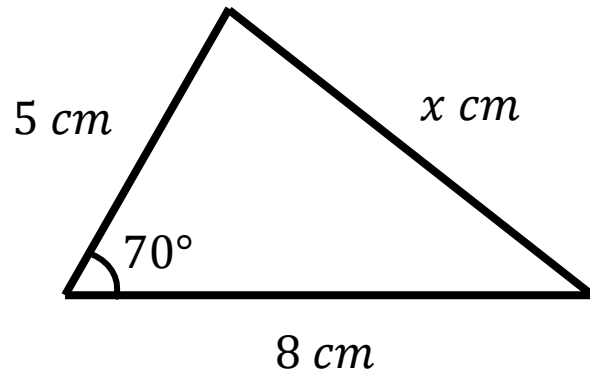
Find the possible values of x



$$x = 77.61^\circ \text{ or } 102.39^\circ$$

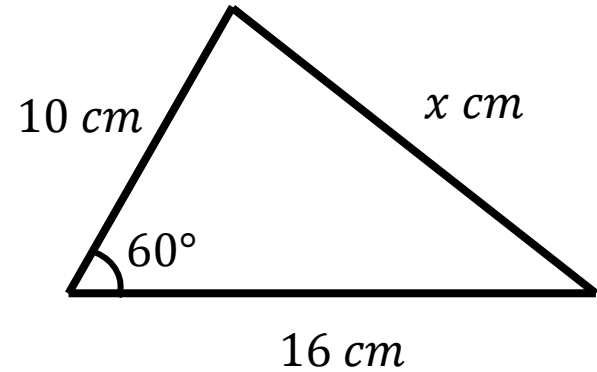
Worked example

Find the value of x



Your turn

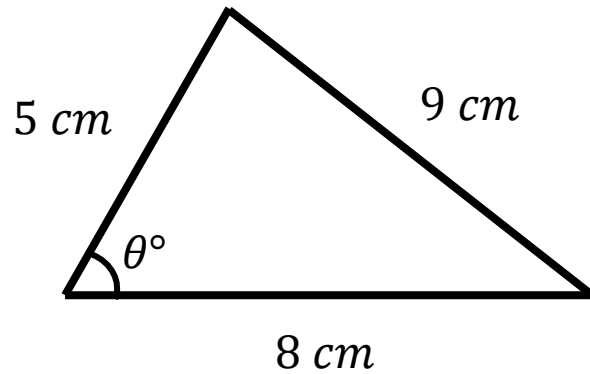
Find the value of x



$$x = 14 \text{ (2 dp)}$$

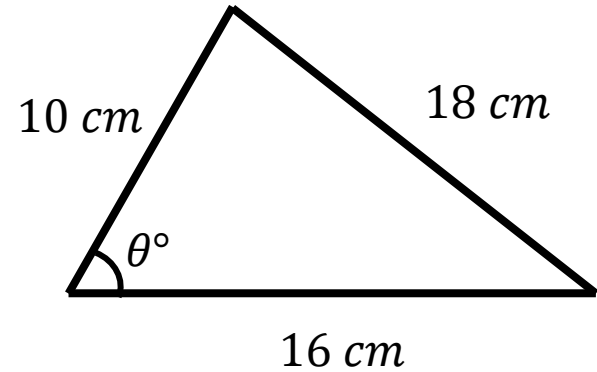
Worked example

Find the value of θ



Your turn

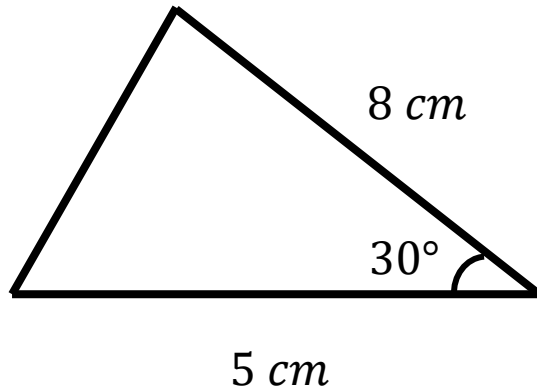
Find the value of θ



$$\theta = 84.26 \text{ (2 dp)}$$

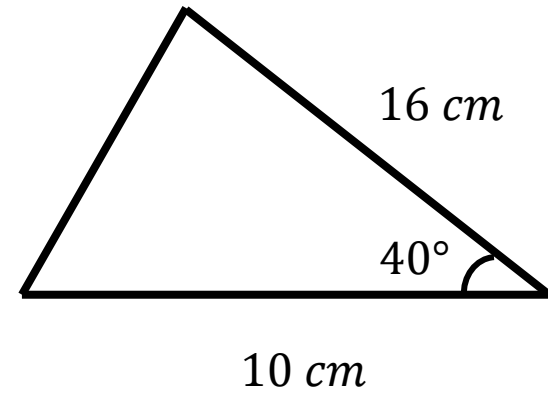
Worked example

Calculate the area of the triangle:



Your turn

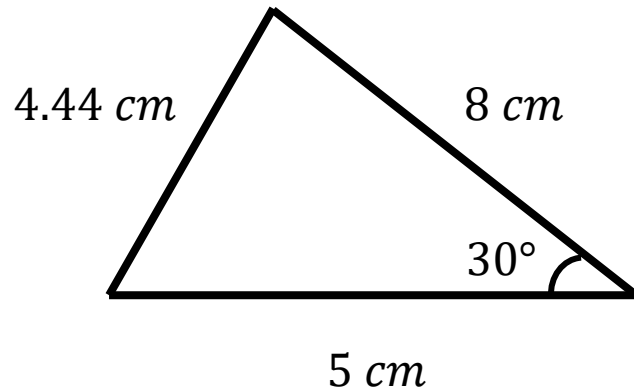
Calculate the area of the triangle:



51.42 cm^2 (2 dp)

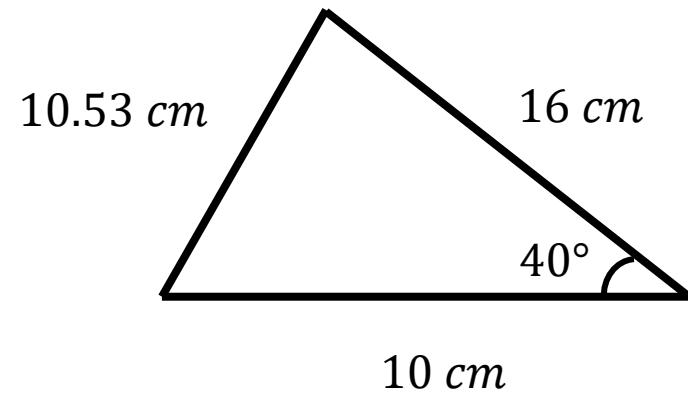
Worked example

Calculate the area of the triangle:



Your turn

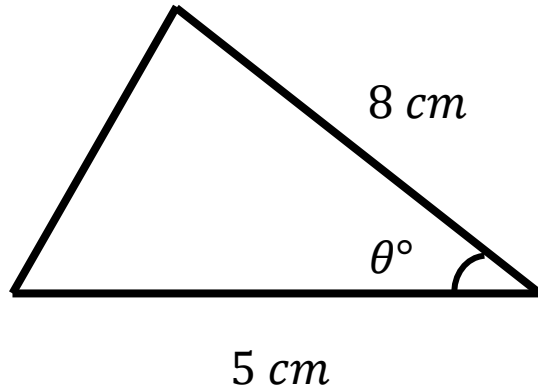
Calculate the area of the triangle:



51.42 cm^2 (2 dp)

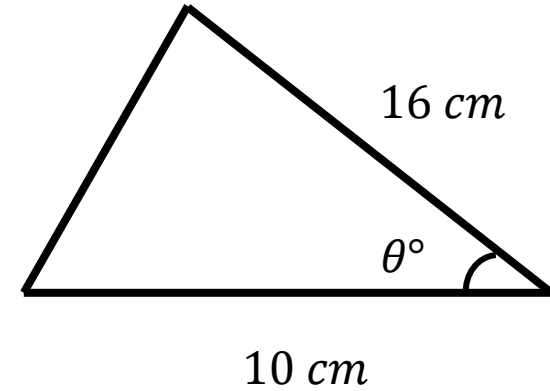
Worked example

The area is 10 cm^2
Calculate θ



Your turn

The area is 51.42 cm^2
Calculate θ



$$\theta = 40$$

Worked example

A triangle has sides 5.1 cm , 3.4 cm and 2.85 cm .
Work out the area of the triangle

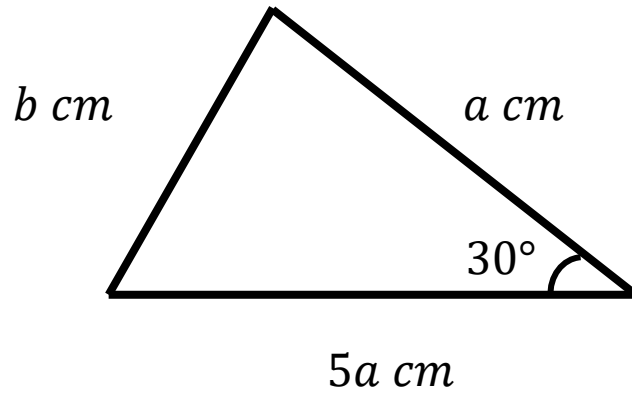
Your turn

A triangle has sides 10.2 cm , 6.8 cm and 5.7 cm .
Work out the area of the triangle

18.3 cm^2 (1 dp)

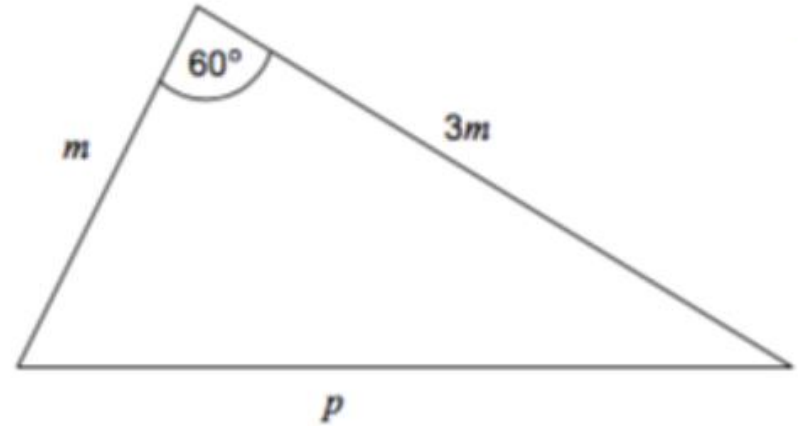
Worked example

Use the cosine rule to express b in terms of a



Your turn

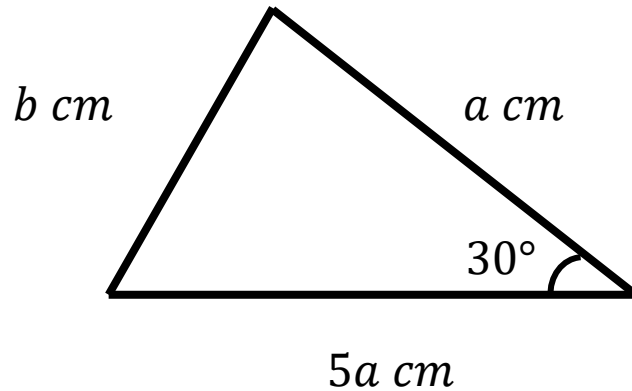
Use the cosine rule to express p in terms of m



$$p = m\sqrt{7}$$

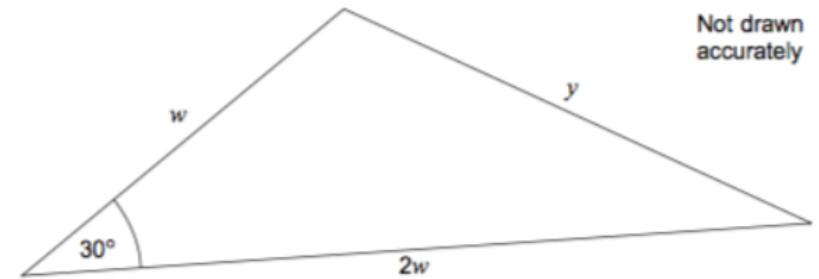
Worked example

The area of the triangle is 10 cm^2 .
Work out b



Your turn

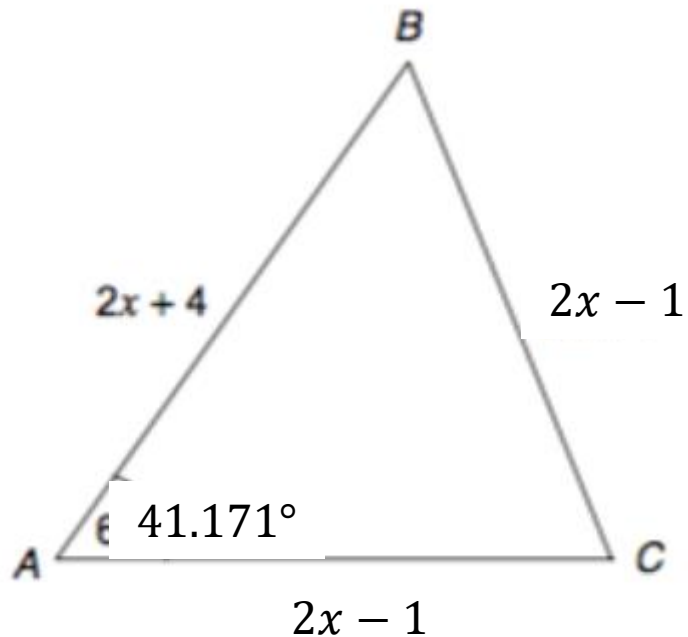
The area of the triangle is 18 cm^2 .
Work out y



$$y = 7.4 \text{ cm}$$

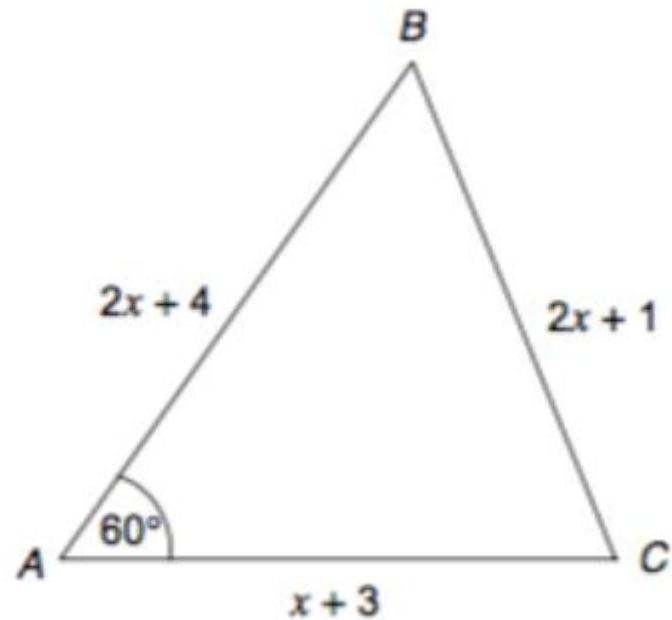
Worked example

Use the cosine rule to find the exact value of x



Your turn

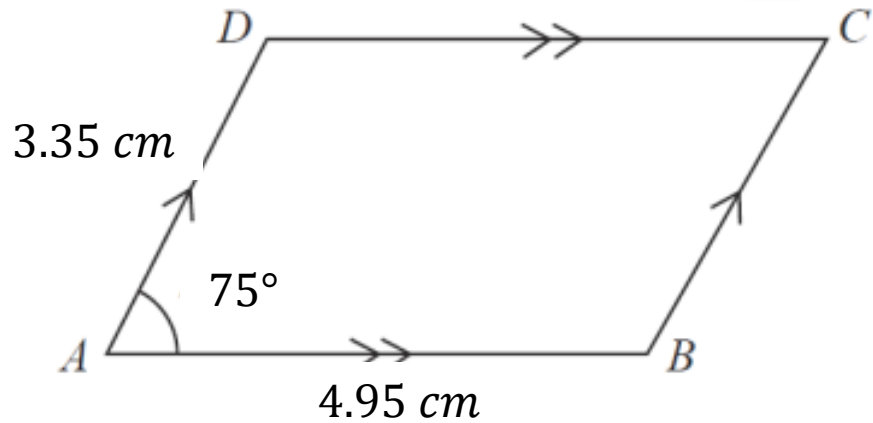
Use the cosine rule to find the exact value of x



$$x = 4 + 2\sqrt{7}$$

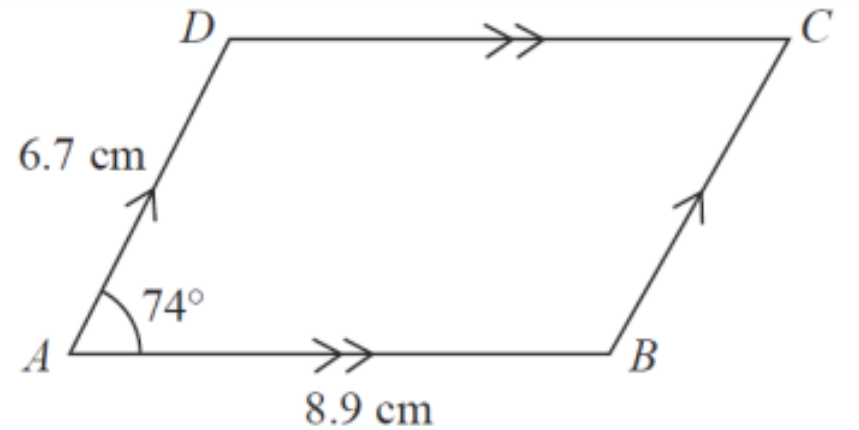
Worked example

Calculate the area of the parallelogram



Your turn

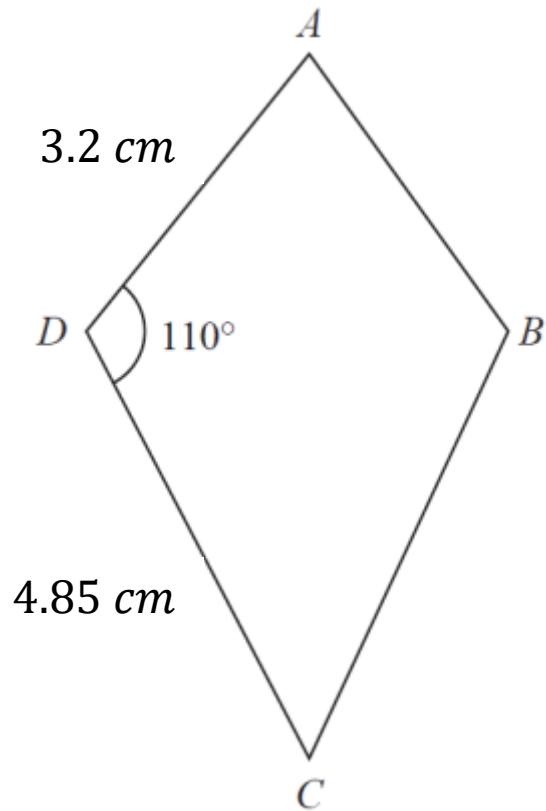
Calculate the area of the parallelogram



57.32 cm^2 (2 dp)

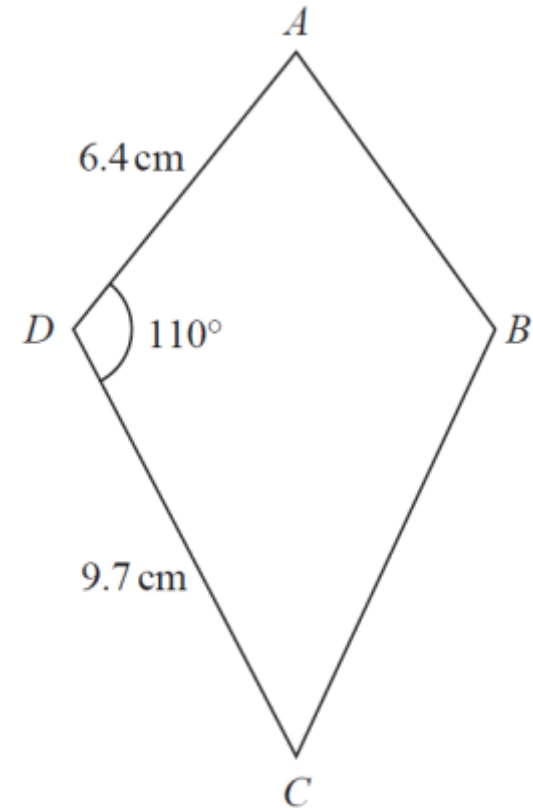
Worked example

Calculate the area of the kite



Your turn

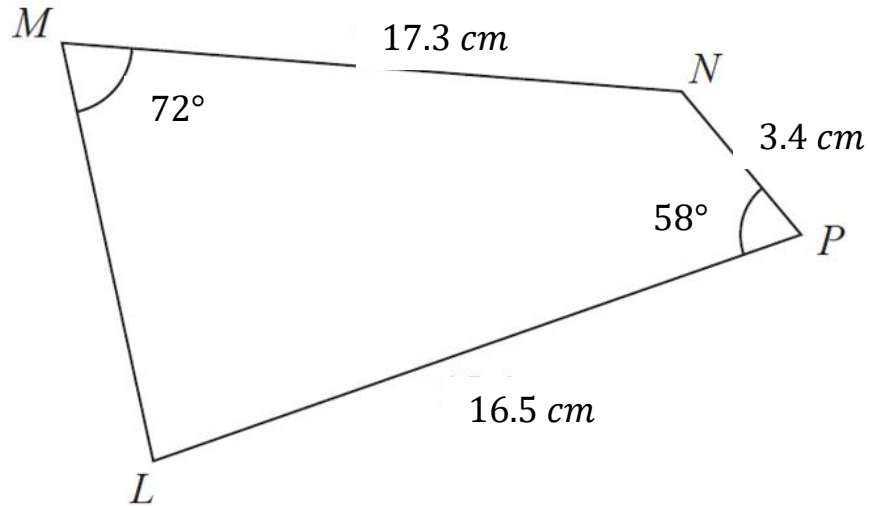
Calculate the area of the kite



58.34 cm^2 (2 dp)

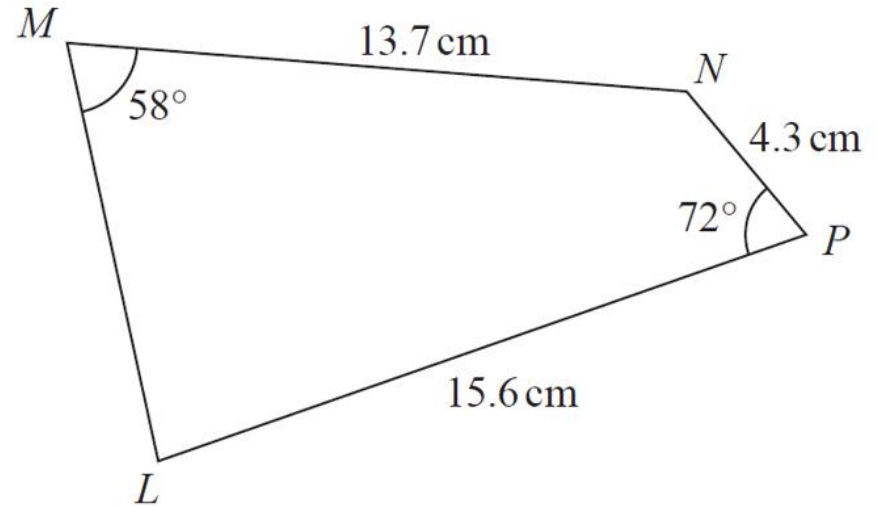
Worked example

Calculate the size of angle MLP



Your turn

Calculate the size of angle MLP



67.49° (2 dp)

Worked example

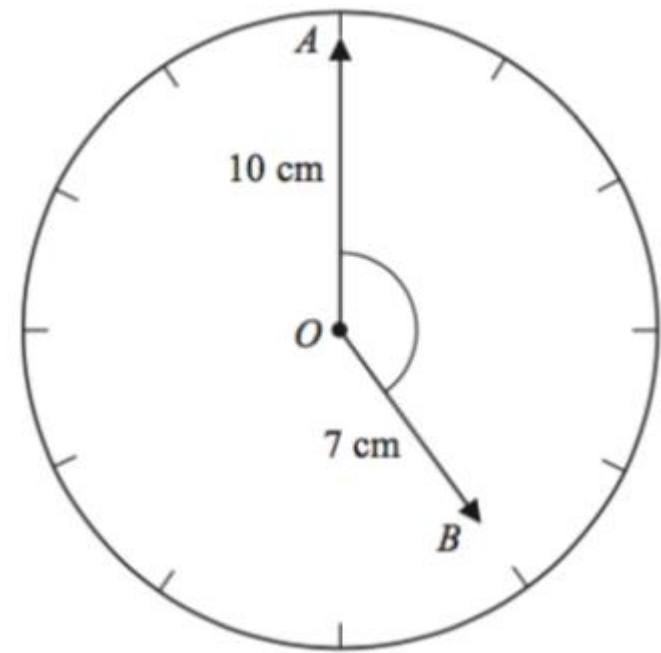
A clock's hands are 5 *cm* and 3.5 *cm*.

Find the distance between the tips of the hands at 4 o'clock

Your turn

A clock's hands are 10 *cm* and 7 *cm*.

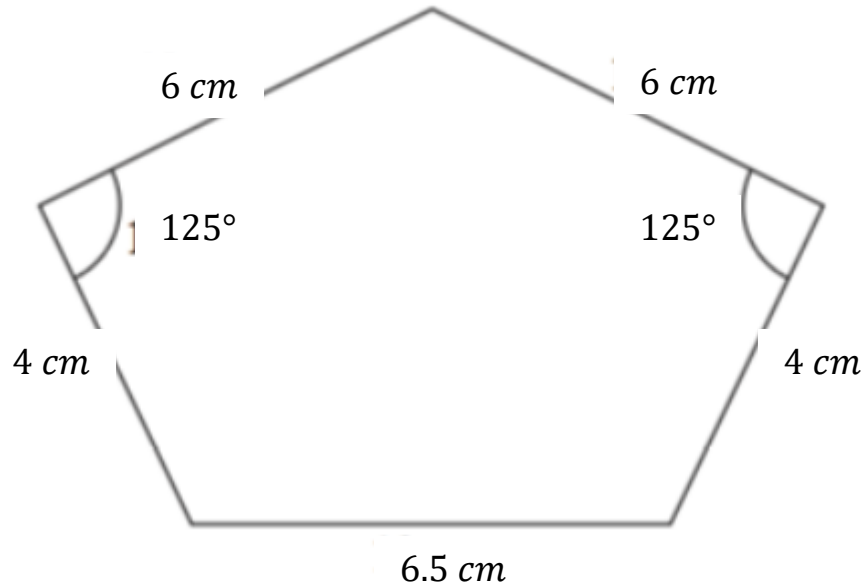
Find the distance between the tips of the hands at 4 o'clock



16.4 *cm* (1 dp)

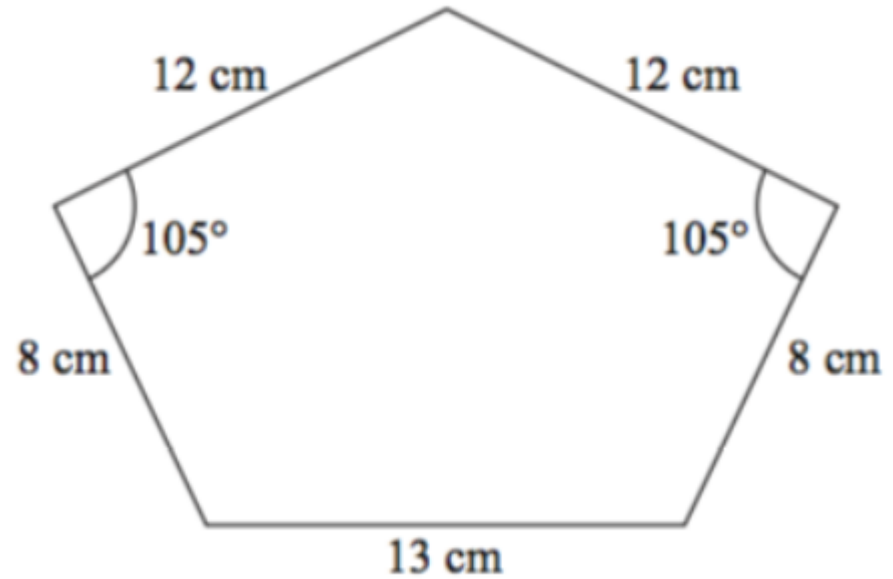
Worked example

Work out the area of the pentagon



Your turn

Work out the area of the pentagon



$$188 - 188.5 \text{ cm}^2$$