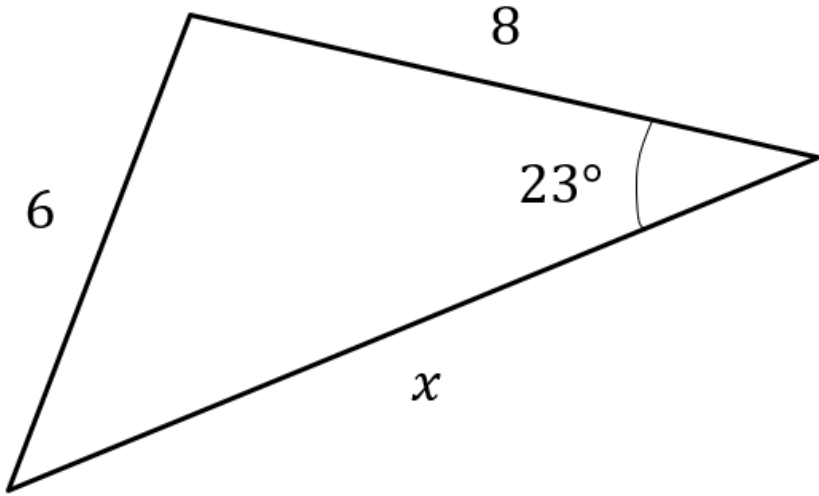


## 9.4) Solving triangle problems

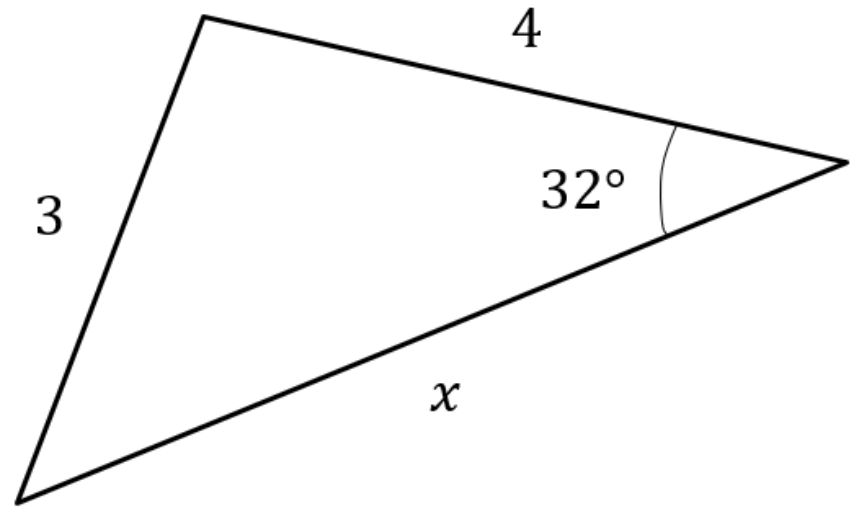
## Worked example

Calculate the value of  $x$



## Your turn

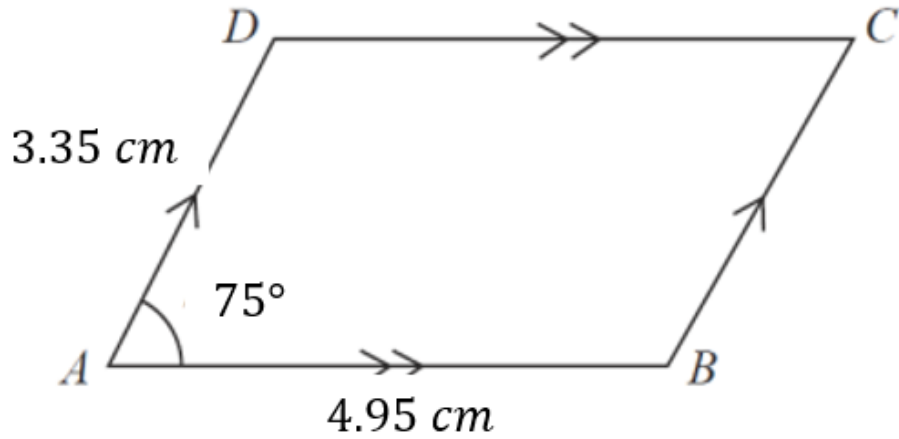
Calculate the value of  $x$



$$x = 5.52 \text{ (3 sf)}$$

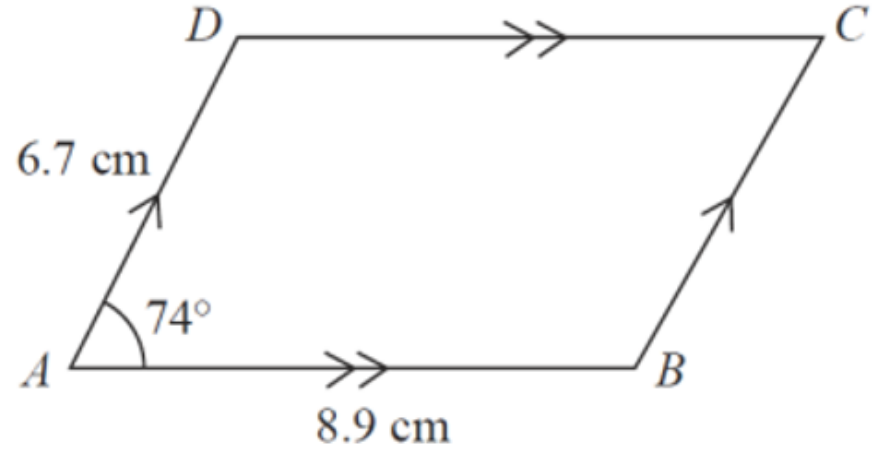
## Worked example

Calculate the area of the parallelogram



## Your turn

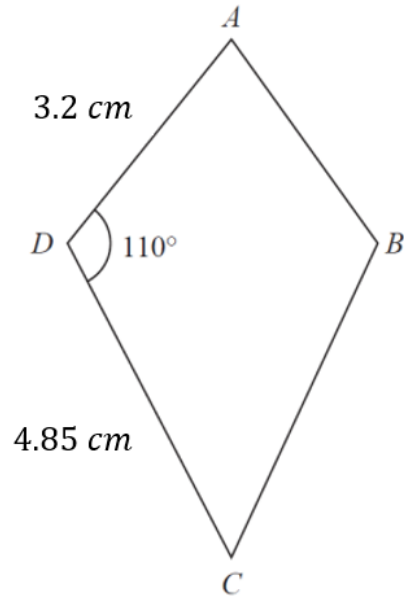
Calculate the area of the parallelogram



$57.32 \text{ cm}^2$  (2 dp)

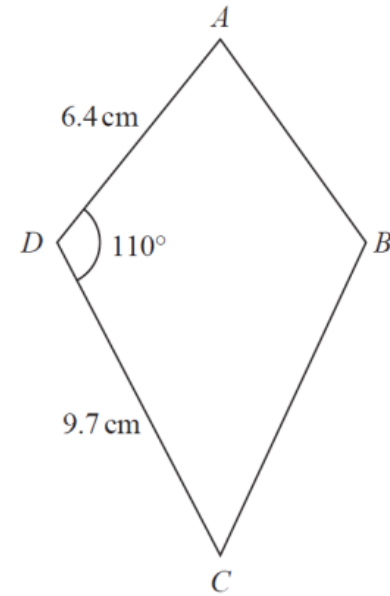
## Worked example

Calculate the area of the kite



## Your turn

Calculate the area of the kite



$58.34\text{ cm}^2$  (2 dp)

## Worked example

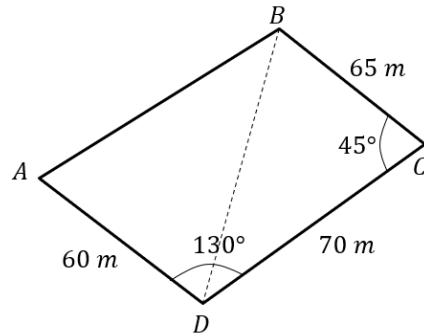
The diagram shows the locations of four mobile phone masts in a field.

$BC = 75\text{ m}$ ,  $CD = 80\text{ m}$ , angle  $BCD = 55^\circ$  and angle  $ADC = 140^\circ$ .

In order that the masts do not interfere with each other, they must be at least 65m apart.

Given that  $A$  is the minimum distance from  $D$ , find:

- The distance  $A$  is from  $B$
- The angle  $BAD$
- The area enclosed by the four masts.



## Your turn

The diagram shows the locations of four mobile phone masts in a field.

$BC = 75\text{ m}$ ,  $CD = 80\text{ m}$ , angle  $BCD = 55^\circ$  and angle  $ADC = 140^\circ$ .

In order that the masts do not interfere with each other, they must be at least 70m apart.

Given that  $A$  is the minimum distance from  $D$ , find:

- The distance  $A$  is from  $B$
- The angle  $BAD$
- The area enclosed by the four masts.

- $9.21\text{ m}$  (3 sf)
- $50.3^\circ$  (3 sf)
- $4940\text{ m}^2$  (3 sf)

