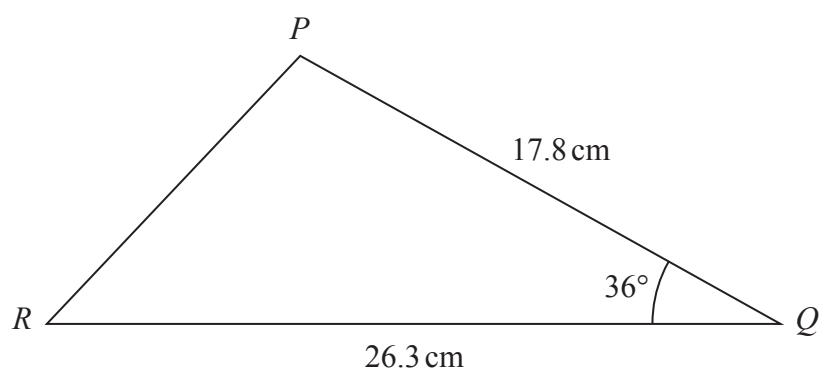


1 The diagram shows triangle PQR .



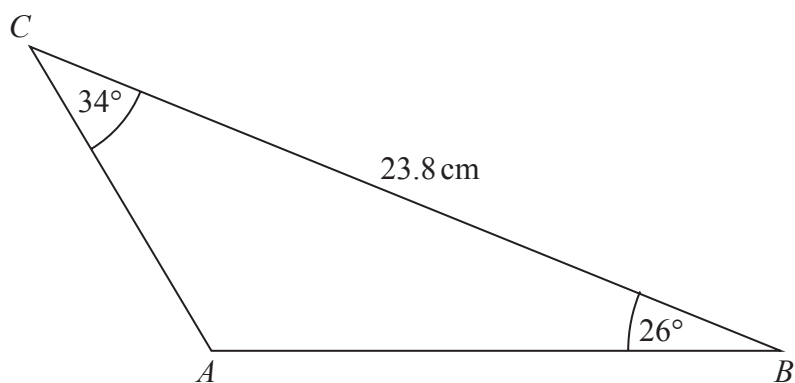
Calculate the length of PR .

Give your answer correct to 3 significant figures.

..... cm

(Total for Question 1 is 3 marks)

2 Here is triangle ABC .



Work out the length of AB .
Give your answer correct to 1 decimal place.

..... cm

(Total for Question 2 is 3 marks)

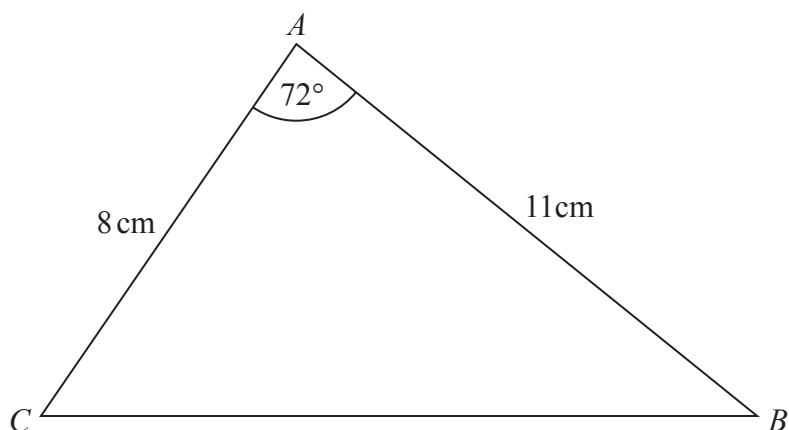
3 A triangle has sides of length 8 cm, 10 cm and 14 cm.

Work out the size of the largest angle of the triangle.
Give your answer correct to 1 decimal place.

o

(Total for Question 3 is 3 marks)

4 Here is triangle ABC .



- (a) Find the length of BC .
Give your answer correct to 3 significant figures.

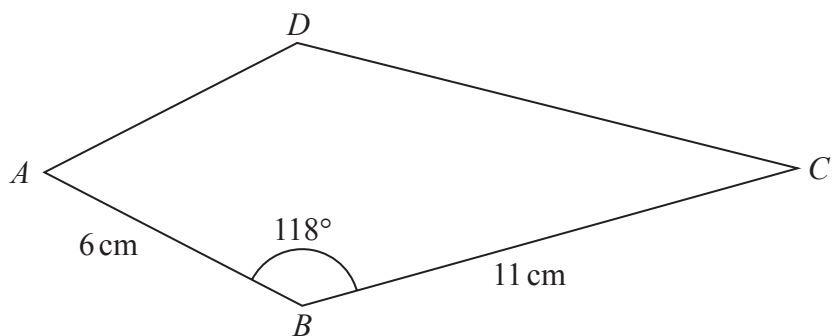
..... cm
(3)

- (b) Find the area of triangle ABC .
Give your answer correct to 3 significant figures.

..... cm^2
(2)

(Total for Question 4 is 5 marks)

5 The diagram shows a kite $ABCD$



$$AB = 6\text{ cm}$$

$$BC = 11\text{ cm}$$

$$\text{Angle } ABC = 118^\circ$$

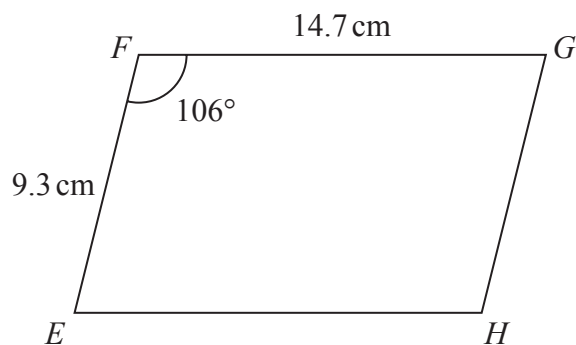
Calculate the area of the kite.

Give your answer correct to 3 significant figures.

..... cm^2

(Total for Question 5 is 3 marks)

6 The diagram shows parallelogram $EFGH$.



$$EF = 9.3\text{ cm}$$

$$FG = 14.7\text{ cm}$$

$$\text{Angle } EFG = 106^\circ$$

- (a) Work out the area of the parallelogram.
Give your answer correct to 3 significant figures.

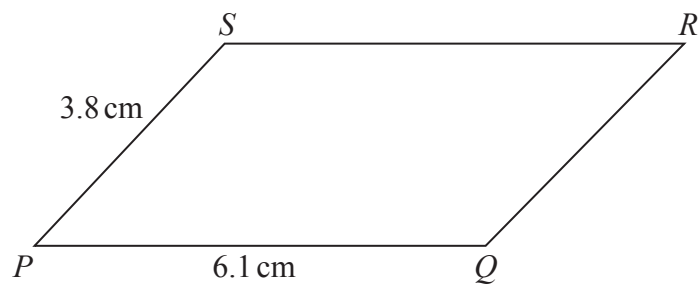
..... cm^2
(2)

- (b) Work out the length of the diagonal EG of the parallelogram.
Give your answer correct to 3 significant figures.

..... cm
(3)

(Total for Question 6 is 5 marks)

7 Here is a parallelogram $PQRS$, in which angle SPQ is acute.



$$PQ = 6.1\text{ cm} \quad PS = 3.8\text{ cm}$$

The area of the parallelogram is 18 cm^2

Work out the length of QS

Give your answer correct to 3 significant figures.

..... cm

(Total for Question 7 is 5 marks)

8 In triangle RPQ ,

$$RP = 8.7 \text{ cm}$$

$$PQ = 5.2 \text{ cm}$$

$$\text{Angle } PRQ = 32^\circ$$

- (a) Assuming that angle PQR is an acute angle,
calculate the area of triangle RPQ .
Give your answer correct to 3 significant figures.

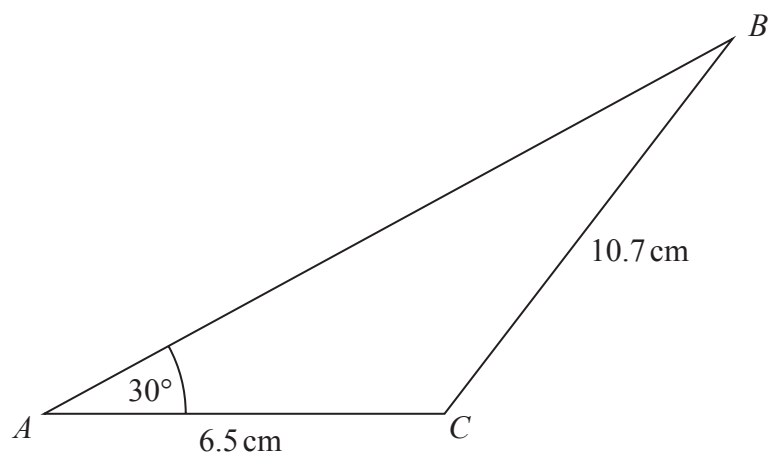
.....cm²
(4)

- (b) If you did not know that angle PQR is an acute angle, what effect would this have on
your calculation of the area of triangle RPQ ?

.....
.....
.....
(1)

(Total for Question 8 is 5 marks)

9 Here is a triangle ABC .

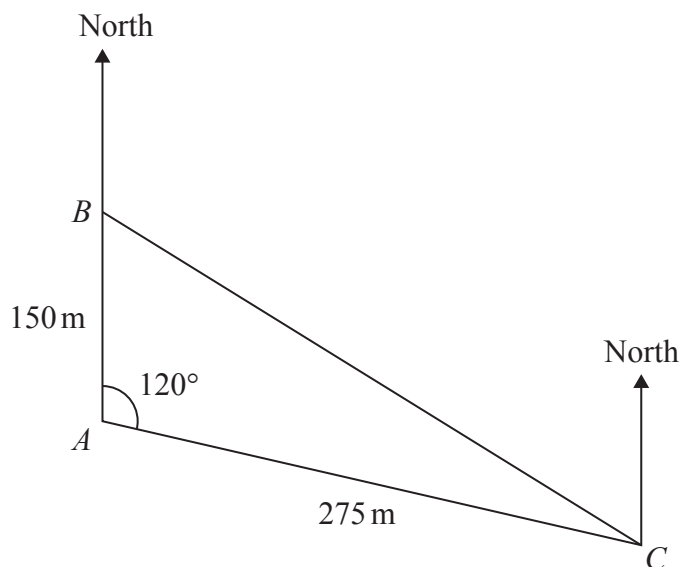


Work out the value of $\sin ABC$

Give your answer in the form $\frac{m}{n}$ where m and n are integers.

.....
(Total for Question 9 is 4 marks)

10 The diagram shows the positions of three ships, A , B and C .



Ship B is due north of ship A .

The bearing of ship C from ship A is 120°

Calculate the bearing of ship C from ship B .

Give your answer correct to the nearest degree.

o

(Total for Question 10 is 5 marks)

11 A boat sails from point X to point Y and then to point Z .

Y is on a bearing of 280° from X .

Z is on a bearing of 220° from Y .

The distance from X to Y is 3.5 km.

The distance from Y to Z is 6 km.

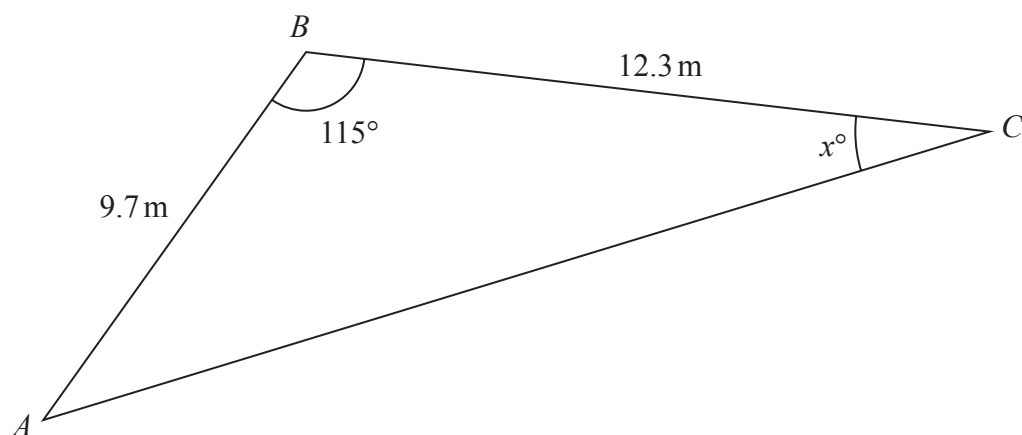
Work out the bearing of Z from X .

Give your answer correct to 1 decimal place.

o

(Total for Question 11 is 5 marks)

12 Here is triangle ABC

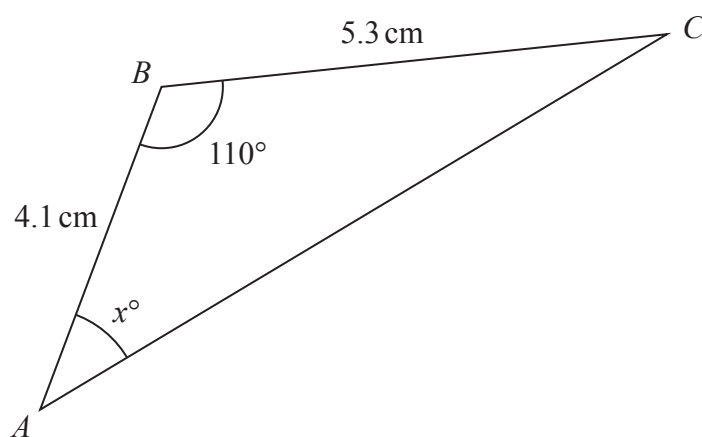


Work out the value of x
Give your answer correct to 3 significant figures.

$x =$

(Total for Question 12 is 5 marks)

13 Here is triangle ABC .

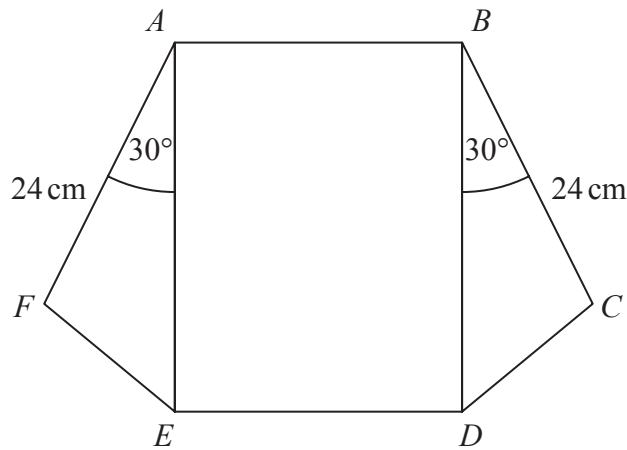


Calculate the value of x .

Give your answer correct to 3 significant figures.

(Total for Question 13 is 5 marks)

14 The diagram shows a rectangle, $ABDE$, and two congruent triangles, AFE and BCD .



area of rectangle $ABDE$ = area of triangle AFE + area of triangle BCD

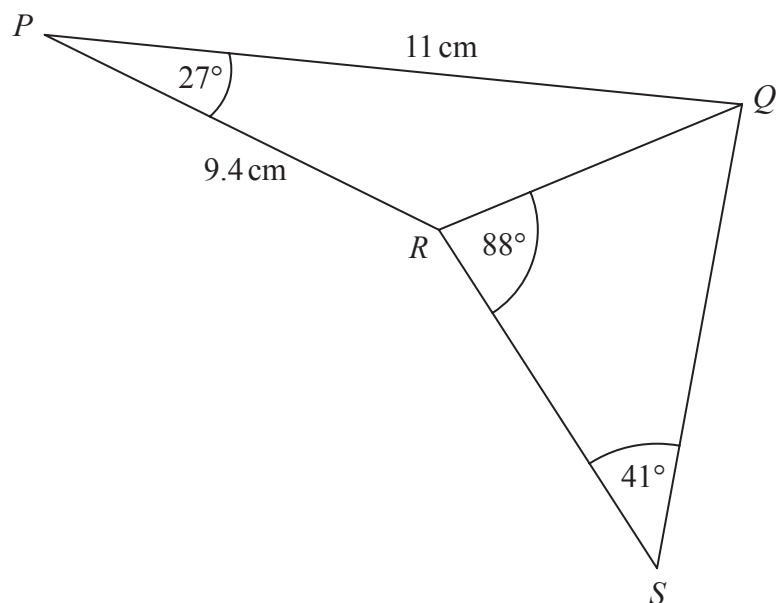
$$AB : AE = 1 : 3$$

Work out the length of AE .

..... cm

(Total for Question 14 is 4 marks)

15 PQR and QRS are triangles.

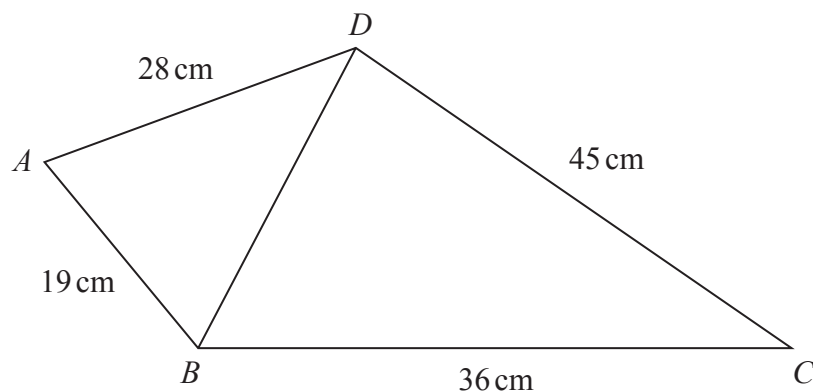


Calculate the length of QS .
Give your answer correct to 3 significant figures.
You must show all your working.

..... cm

(Total for Question 15 is 4 marks)

16 The diagram shows quadrilateral $ABCD$



The angle BCD is acute.

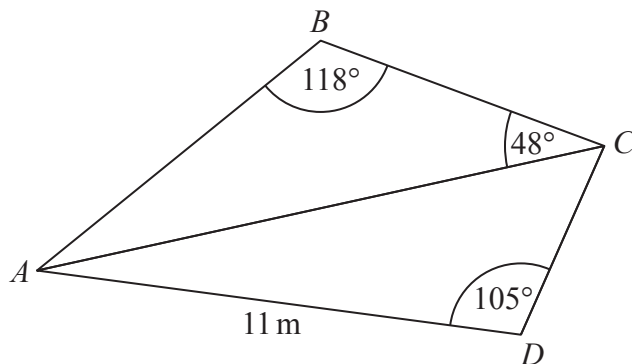
Given that the area of triangle $BCD = 405\text{ cm}^2$

work out the size of angle ABD

Give your answer correct to one decimal place.

(Total for Question 16 is 5 marks)

17 ABC and ADC are triangles.



The area of triangle ADC is 56 m^2

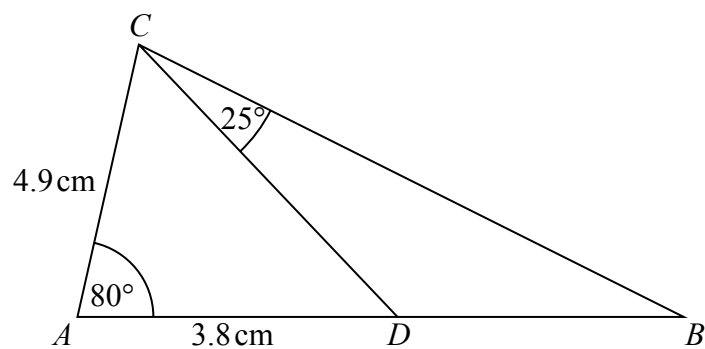
Work out the length of AB .

Give your answer correct to 1 decimal place.

..... m

(Total for Question 17 is 5 marks)

18



ABC is a triangle.

D is a point on AB .

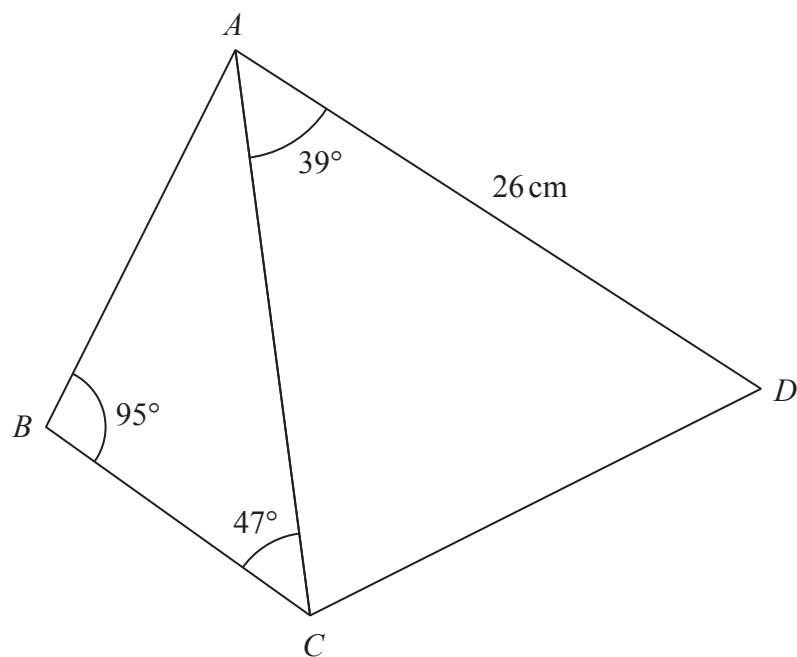
Work out the area of triangle BCD .

Give your answer correct to 3 significant figures.

..... cm^2

(Total for Question 18 is 5 marks)

19 $ABCD$ is a quadrilateral.



The area of triangle ACD is 250 cm^2

Calculate the area of the quadrilateral $ABCD$.

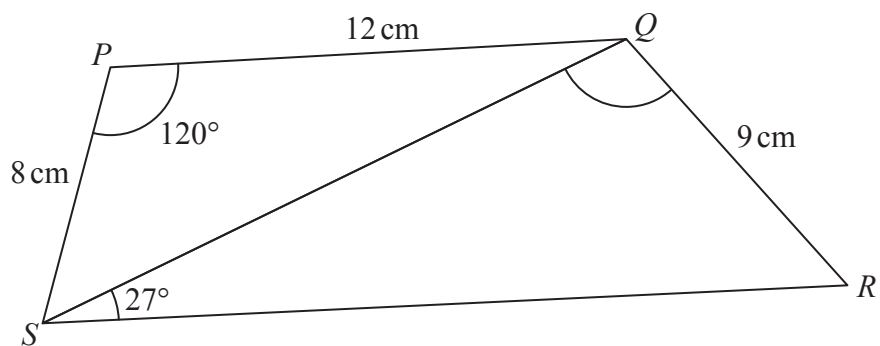
Show your working clearly.

Give your answer correct to 3 significant figures.

.....cm²

(Total for Question 19 is 6 marks)

20 Here is a quadrilateral $PQRS$.



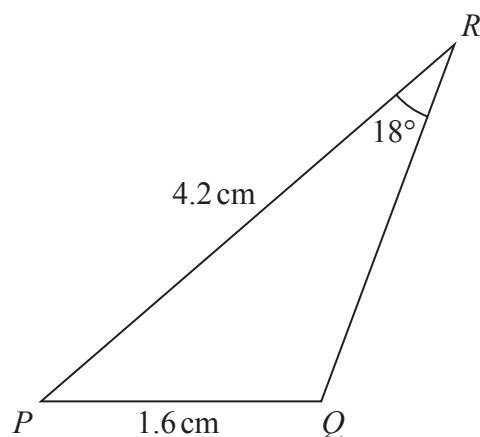
Angle SRQ is acute.

Work out the size of angle SQR .

Give your answer correct to 1 decimal place.

(Total for Question 20 is 6 marks)

21 The diagram shows triangle PQR



$$PQ = 1.6 \text{ cm}$$

$$PR = 4.2 \text{ cm}$$

$$\text{Angle } PRQ = 18^\circ$$

Given that angle PQR is obtuse,

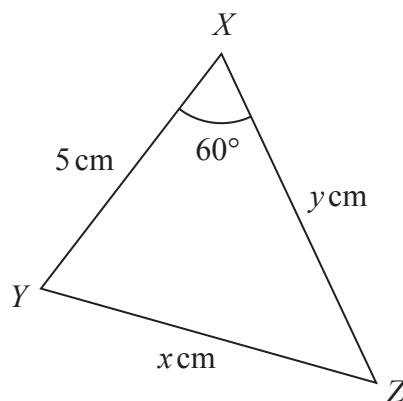
work out the area of triangle PQR

Give your answer correct to 3 significant figures.

..... cm^2

(Total for Question 21 is 6 marks)

22 Here is a triangle XYZ .



The perimeter of the triangle is $k\text{ cm}$.

Given that $x = y - 1$

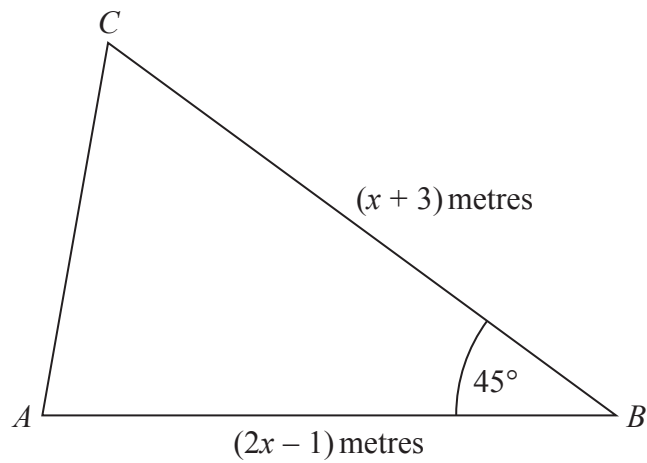
find the value of k .

Show your working clearly.

$k =$

(Total for Question 22 is 5 marks)

23



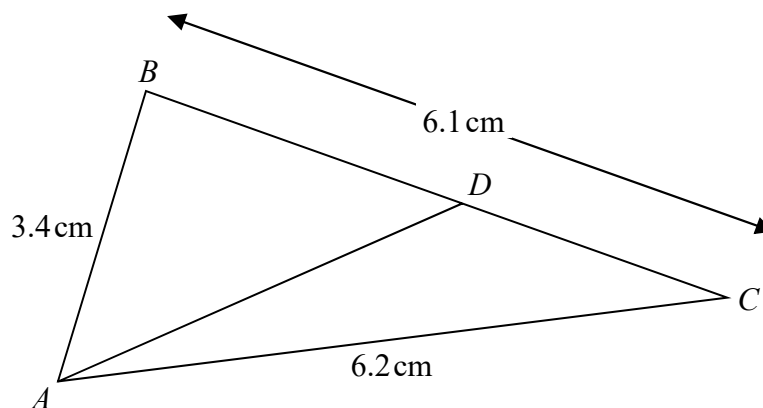
The area of triangle ABC is $6\sqrt{2} \text{ m}^2$.

Calculate the value of x .

Give your answer correct to 3 significant figures.

(Total for Question 23 is 5 marks)

24 The diagram shows triangle ABC .



$$AB = 3.4\text{ cm} \quad AC = 6.2\text{ cm} \quad BC = 6.1\text{ cm}$$

D is the point on BC such that

$$\text{size of angle } DAC = \frac{2}{5} \times \text{size of angle } BCA$$

Calculate the length DC .

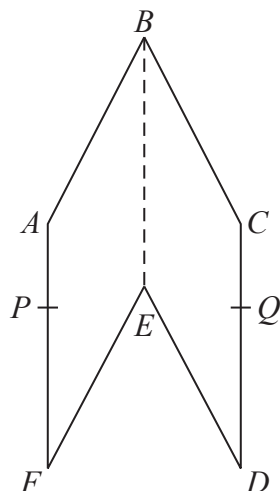
Give your answer correct to 3 significant figures.

You must show all your working.

..... cm

(Total for Question 24 is 5 marks)

25 The diagram shows a hexagon $ABCDEF$.



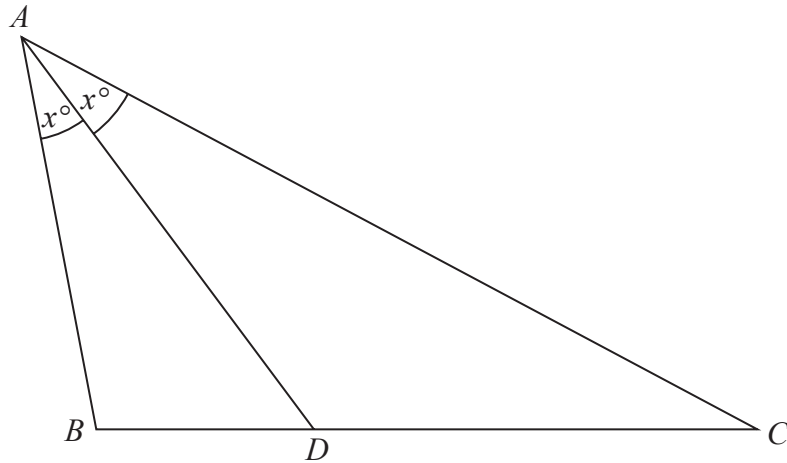
$ABEF$ and $CBED$ are congruent parallelograms where $AB = BC = x$ cm.
 P is the point on AF and Q is the point on CD such that $BP = BQ = 10$ cm.

Given that angle $ABC = 30^\circ$,

prove that $\cos PBQ = 1 - \frac{(2 - \sqrt{3})}{200}x^2$

(Total for Question 25 is 5 marks)

26 ABC is a triangle.



D is the point on BC such that $\text{angle } BAD = \text{angle } DAC = x^\circ$

Prove that $\frac{AB}{BD} = \frac{AC}{DC}$

(Total for Question 26 is 4 marks)