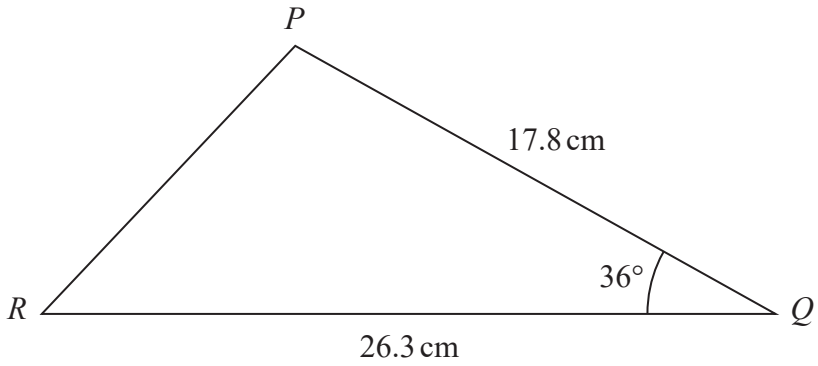
1 A triangle has sides of length 8 cm, 10 cm and 14 cm.

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

.....°

(Total for Question 1 is 3 marks)

2 The diagram shows triangle *PQR*.

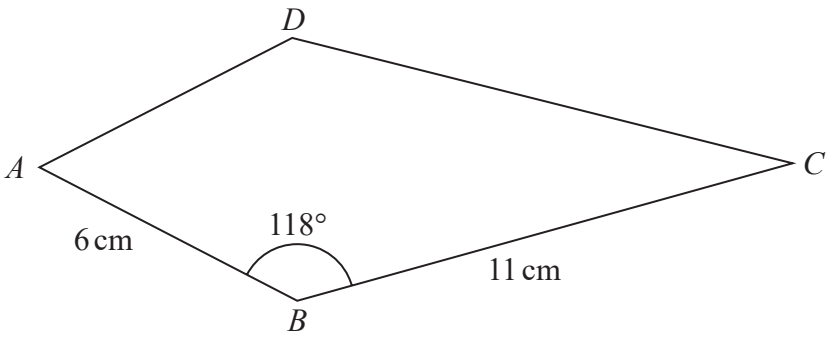


Calculate the length of *PR*.
Give your answer correct to 3 significant figures.

..... cm

(Total for Question 2 is 3 marks)

3 The diagram shows a kite $ABCD$



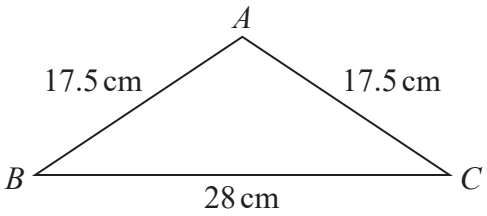
$AB = 6$ cm $BC = 11$ cm Angle $ABC = 118°$

Calculate the area of the kite.
Give your answer correct to 3 significant figures.

..... cm^2

(Total for Question 3 is 3 marks)

4 The diagram shows isosceles triangle ABC



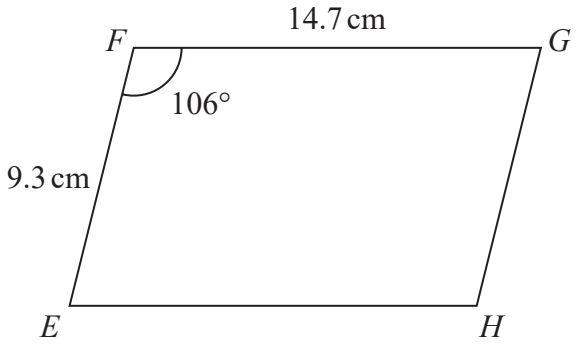
$AB = AC = 17.5$ cm $BC = 28$ cm

Calculate the area of triangle ABC

..... cm^2

(Total for Question 4 is 4 marks)

5 The diagram shows parallelogram *EFGH*.



EF = 9.3 cm
FG = 14.7 cm
Angle *EFG* = 106°

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

..... cm^2

(2)

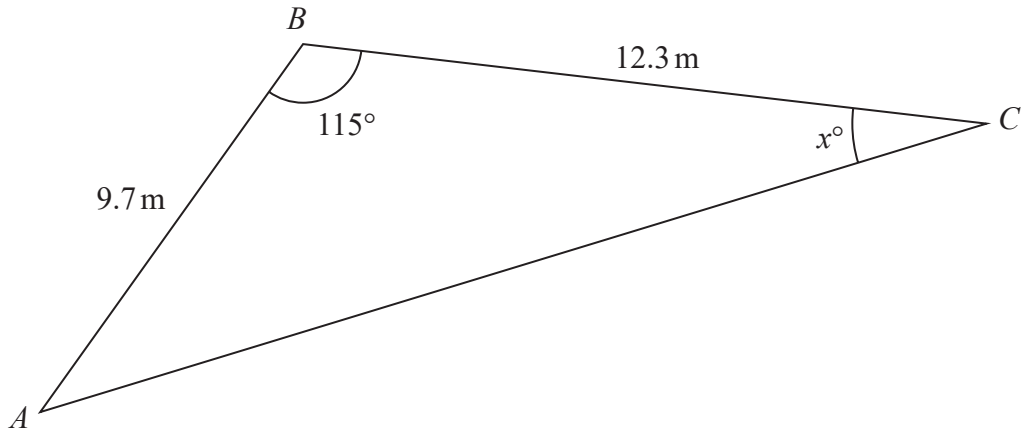
(b) Work out the length of the diagonal *EG* of the parallelogram.
Give your answer correct to 3 significant figures.

..... cm

(3)

(Total for Question 5 is 5 marks)

6 Here is triangle ABC

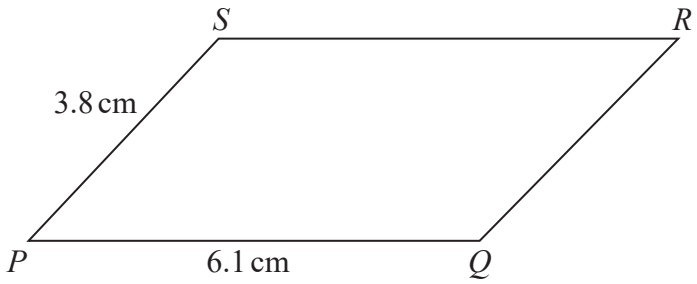


Work out the value of x
Give your answer correct to 3 significant figures.

$x =$ .....

(Total for Question 6 is 5 marks)

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



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

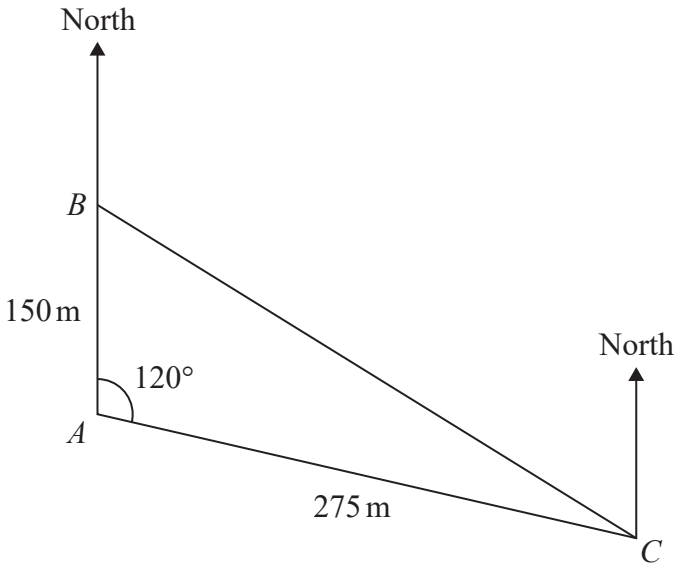
The area of the parallelogram is $18\,\text{cm}^2$

Work out the length of QS
Give your answer correct to 3 significant figures.

..... cm

(Total for Question 7 is 5 marks)

8 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°

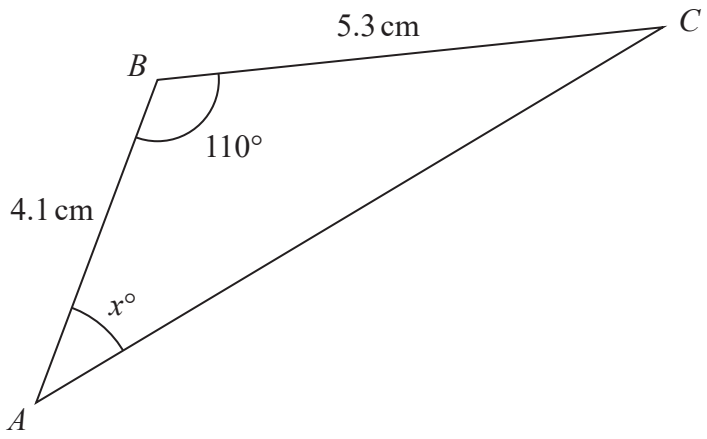
Calculate the bearing of ship C from ship B.
Give your answer correct to the nearest degree.

°

.....

(Total for Question 8 is 5 marks)

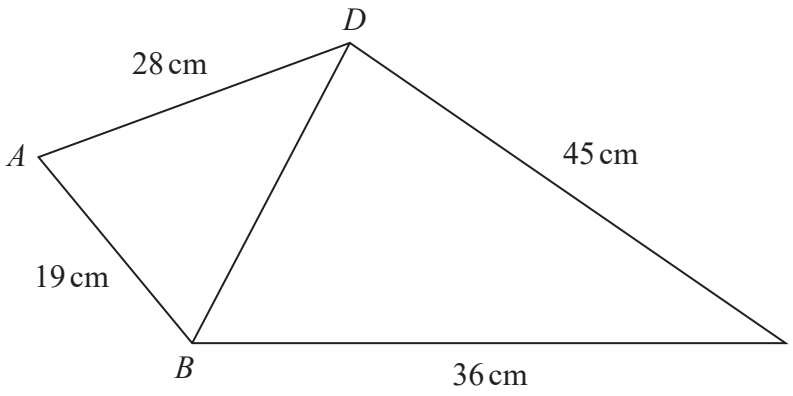
9 Here is triangle ABC.



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

(Total for Question 9 is 5 marks)

10 The diagram shows quadrilateral *ABCD*



The angle *BCD* is acute.

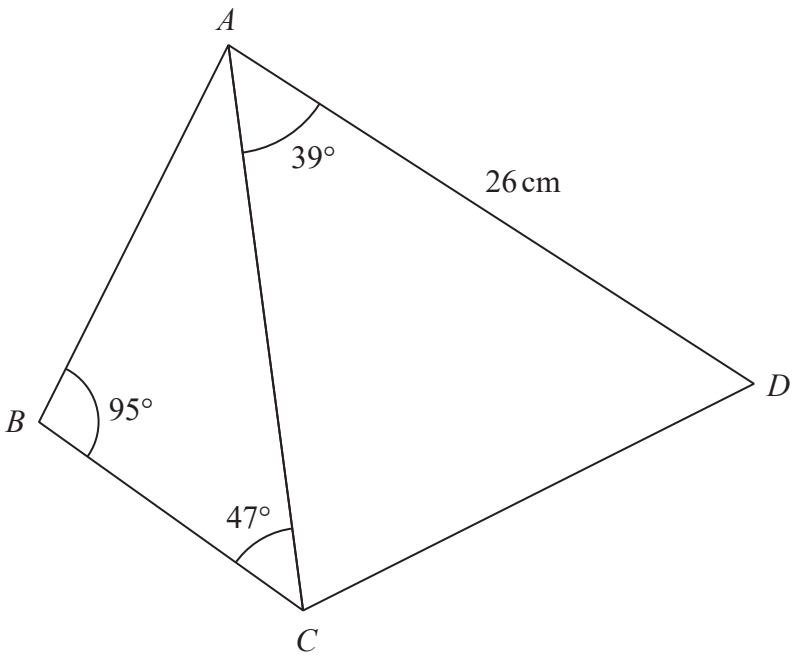
Given that the area of triangle *BCD* = 405 cm^2

work out the size of angle *ABD*
Give your answer correct to one decimal place.

.....°

(Total for Question 10 is 5 marks)

11 *ABCD* is a quadrilateral.



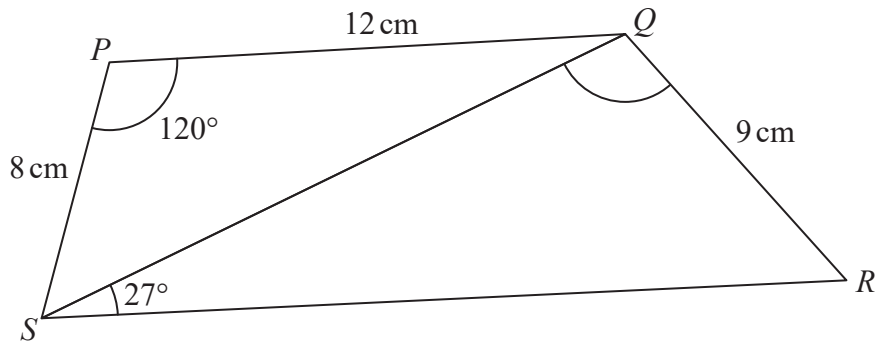
The area of triangle *ACD* is 250 cm^2

Calculate the area of the quadrilateral *ABCD*.
Show your working clearly.
Give your answer correct to 3 significant figures.

.....cm^2

(Total for Question 11 is 6 marks)

12 Here is a quadrilateral *PQRS*.



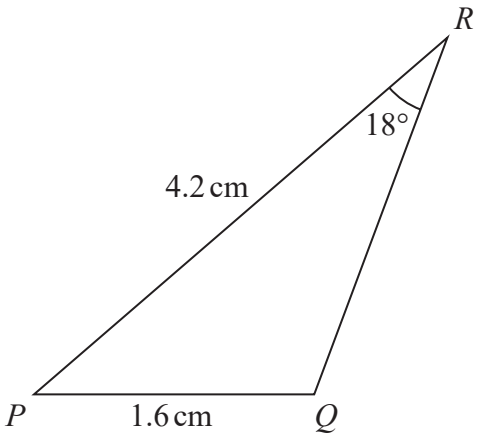
Angle *SRQ* is acute.

Work out the size of angle *SQR*.
Give your answer correct to 1 decimal place.

.....°

(Total for Question 12 is 6 marks)

13 The diagram shows triangle PQR



$PQ = 1.6\,\text{cm}$ $PR = 4.2\,\text{cm}$ Angle $PRQ = 18°$

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 13 is 6 marks)

14 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.

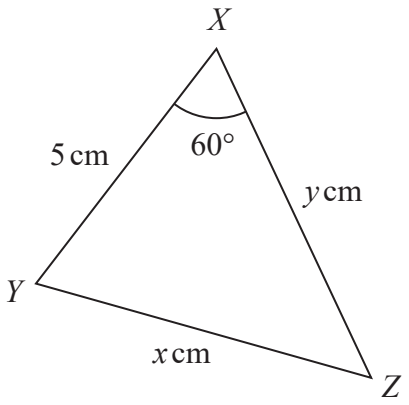
The distance from X to Y is 3.5 km.
The distance from Y to Z is 6 km.

Work out the bearing of Z from X.
Give your answer correct to 1 decimal place.

.....°

(Total for Question 14 is 5 marks)

15 Here is a triangle *XYZ*.



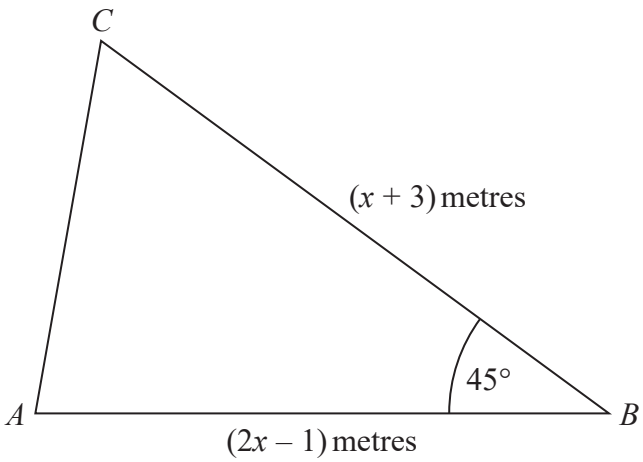
The perimeter of the triangle is k cm.

Given that $x = y - 1$
find the value of k.
Show your working clearly.

$k =$

(Total for Question 15 is 5 marks)

16



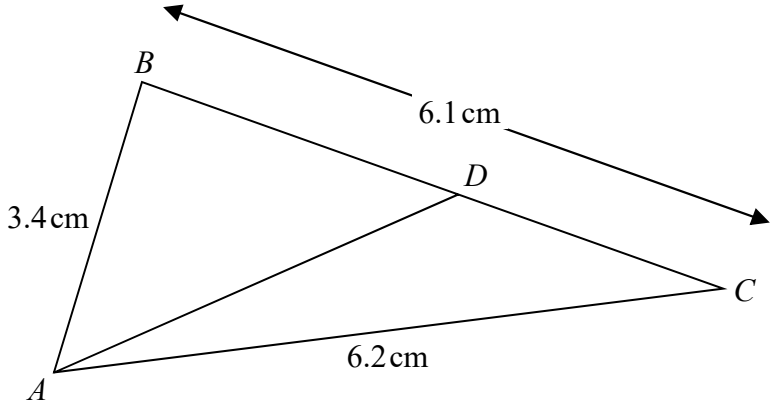
The area of triangle ABC is $6\sqrt{2}$ m^2.

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

.....

(Total for Question 16 is 5 marks)

17 The diagram shows triangle ABC.



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

D is the point on BC such that

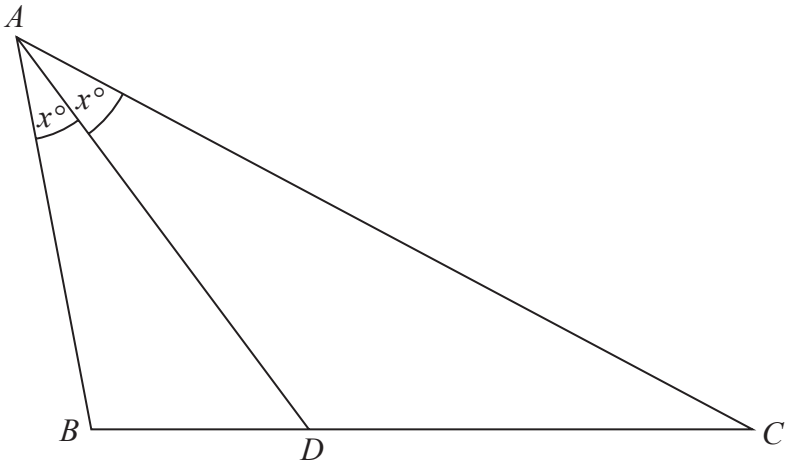
$$\text{size of angle } DAC = \frac{2}{5} \times \text{ size of angle } BCA$$

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

..... cm

(Total for Question 17 is 5 marks)

18 ABC is a triangle.



D is the point on BC such that angle BAD = angle $DAC = x°$

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

(Total for Question 18 is 4 marks)