13 Here is a triangle *XYZ*.

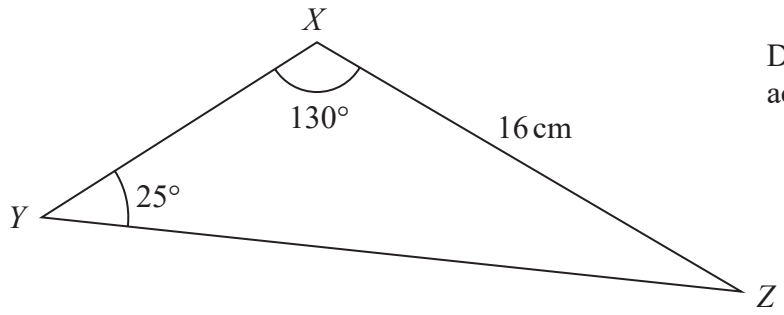


Diagram **NOT** accurately drawn

The length *XZ* and the angles *YXZ* and *XYZ* are each given correct to 2 significant figures.

Calculate the upper bound for the length *YZ*.
Give your answer correct to one decimal place.
Show your working clearly.

..... cm

(Total for Question 13 is 3 marks)

14 The diagram shows parallelogram *EFGH*.

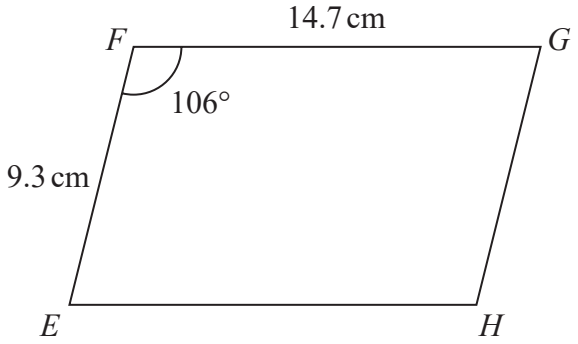


Diagram **NOT** accurately drawn

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 14 is 5 marks)

15 The diagram shows isosceles triangle *EFG*

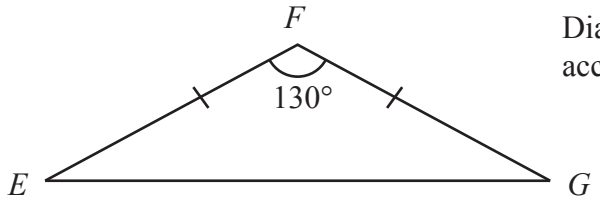


Diagram **NOT** accurately drawn

EF = *GF*
Angle *EFG* = 130°
The area of triangle *EFG* is 74 cm²

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

..... cm

(Total for Question 15 is 3 marks)

15

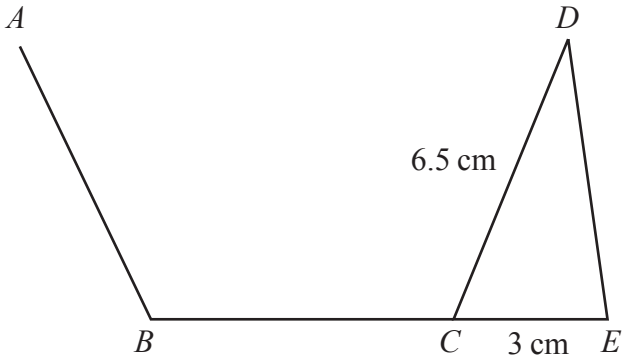


Diagram **NOT** accurately drawn

AB, *BC* and *CD* are three sides of a regular pentagon and *CDE* is a triangle.
BCE is a straight line.

$CD = 6.5\,\text{cm}$ $CE = 3\,\text{cm}$

Work out the area of triangle *CDE*
Give your answer correct to 3 significant figures.

..... cm^2

(Total for Question 15 is 3 marks)

18 Here is triangle ABC

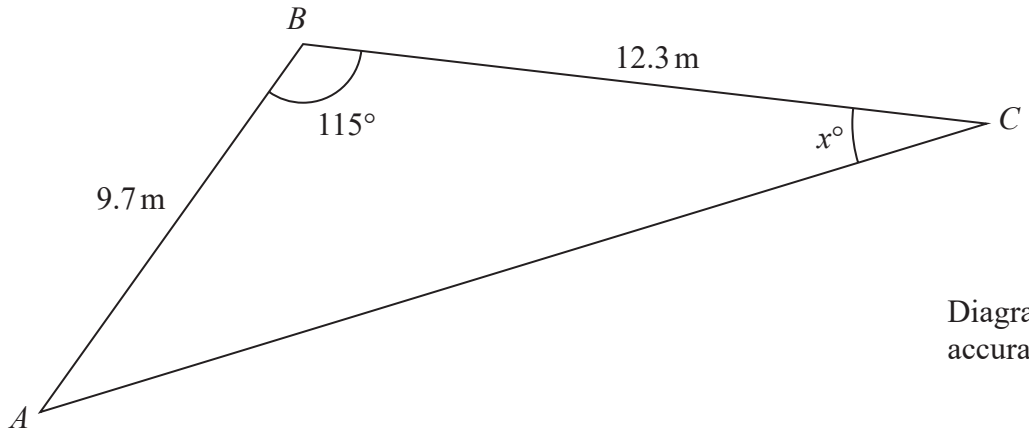


Diagram **NOT** accurately drawn

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

$x =$ .....

(Total for Question 18 is 5 marks)

16 The diagram shows quadrilateral *ABCD*

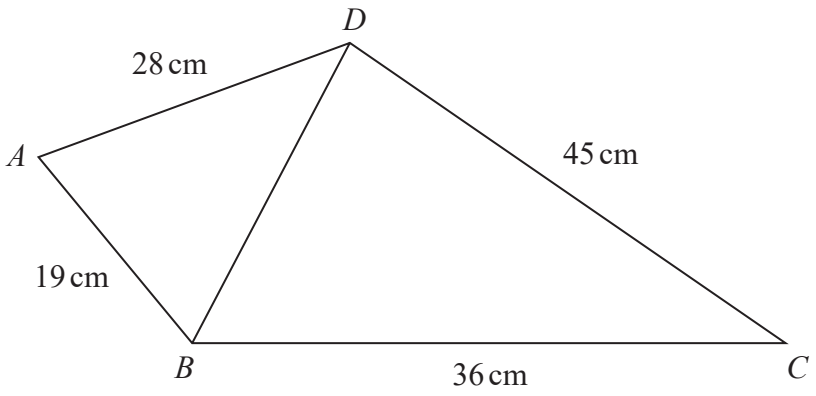


Diagram **NOT** accurately drawn

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 16 is 5 marks)

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

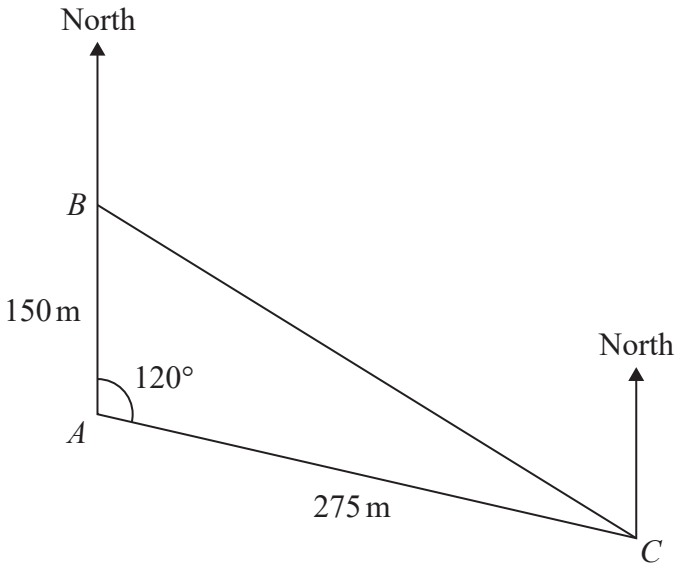


Diagram **NOT** accurately drawn

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 16 is 5 marks)

16 Here is a shape formed from two triangles *ABC* and *CDE*
ACD and *BCE* are straight lines.

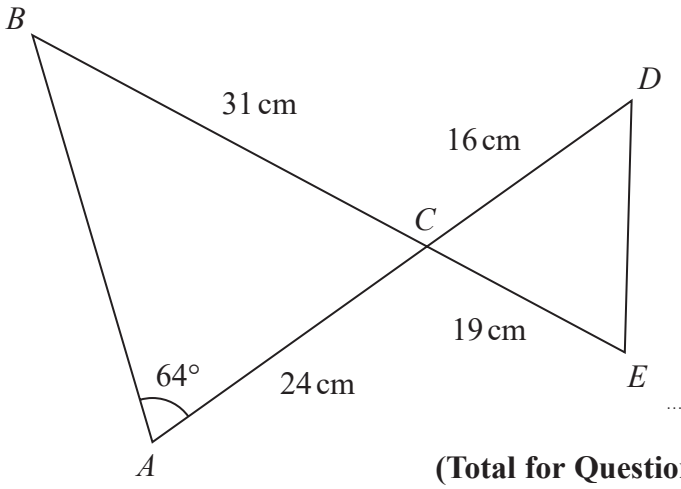


Diagram **NOT** accurately drawn

AC = 24 cm *BC* = 31 cm *CE* = 19 cm *CD* = 16 cm

Angle *BAC* = 64°

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

..... cm

(Total for Question 16 is 5 marks)

17

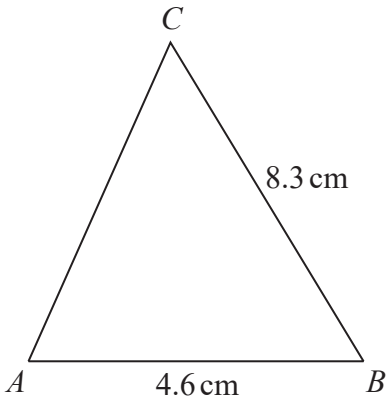


Diagram **NOT** accurately drawn

$AB = 4.6\,\text{cm}$ $BC = 8.3\,\text{cm}$ angle ABC is acute

The area of triangle ABC is $12\,\text{cm}^2$

Work out the perimeter of triangle ABC
Give your answer correct to 3 significant figures.

..... cm

(Total for Question 17 is 5 marks)

17 Here is triangle ABC.

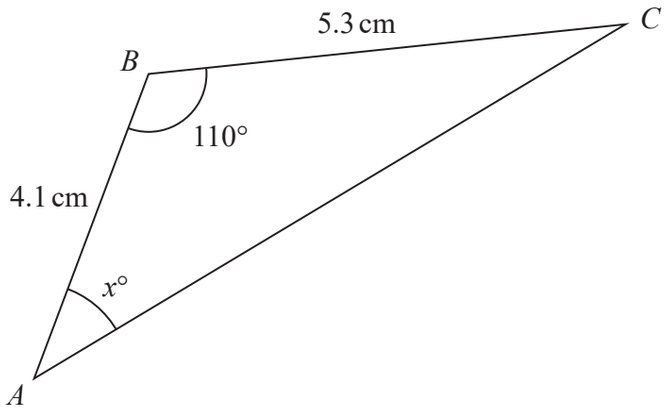


Diagram **NOT** accurately drawn

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

.....

(Total for Question 17 is 5 marks)

18

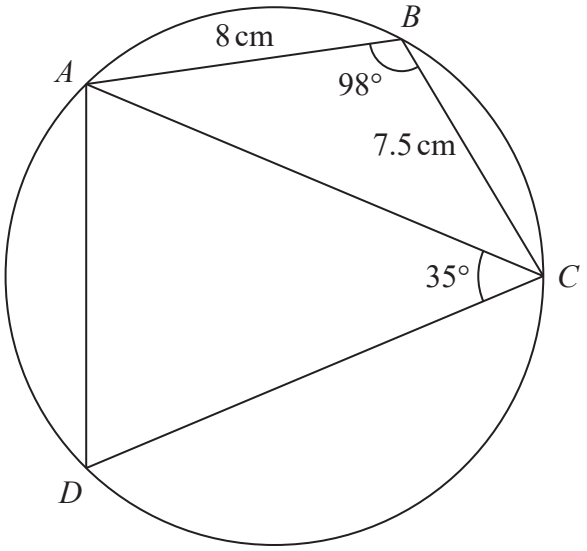


Diagram **NOT** accurately drawn

ABCD is a quadrilateral where *A*, *B*, *C* and *D* are points on a circle.

AB = 8 cm
BC = 7.5 cm
Angle *ABC* = 98°
Angle *ACD* = 35°

Work out the perimeter of quadrilateral *ABCD*.
Give your answer correct to one decimal place.

..... cm

(Total for Question 18 is 6 marks)

18 The diagram shows the positions of three villages, *A*, *B* and *C*

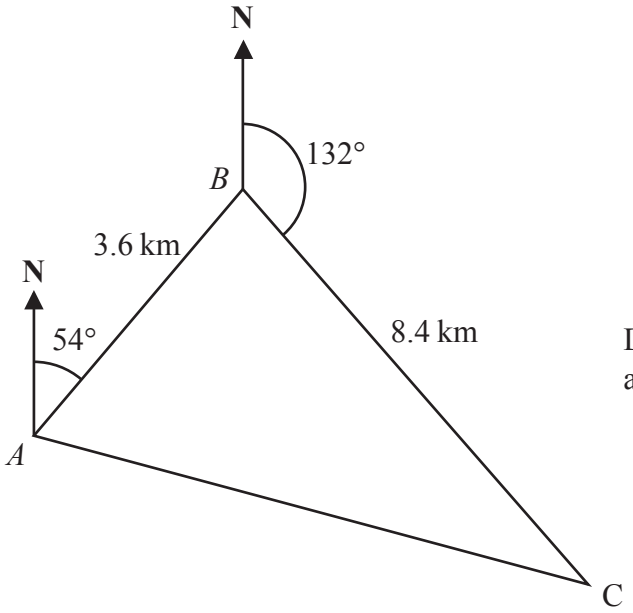


Diagram **NOT** accurately drawn

The bearing of *B* from *A* is 054°
The bearing of *C* from *B* is 132°

Melur walks from *A* to *B*
She then walks from *B* to *C* and from *C* to *A*

Melur walks at an average speed of 6 km/h

Work out the total time Melur takes.
Give your answer in hours and minutes.

..... hours ..... minutes

(Total for Question 18 is 5 marks)

18 Here is a quadrilateral *PQRS*.

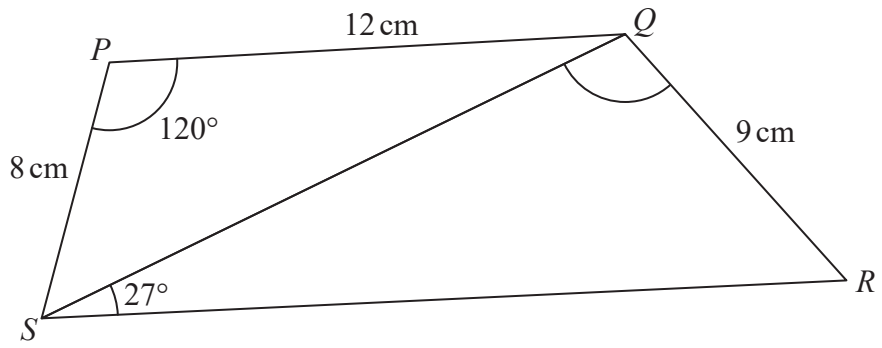


Diagram **NOT** accurately drawn

Angle *SRQ* is acute.

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

.....°

(Total for Question 18 is 6 marks)

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

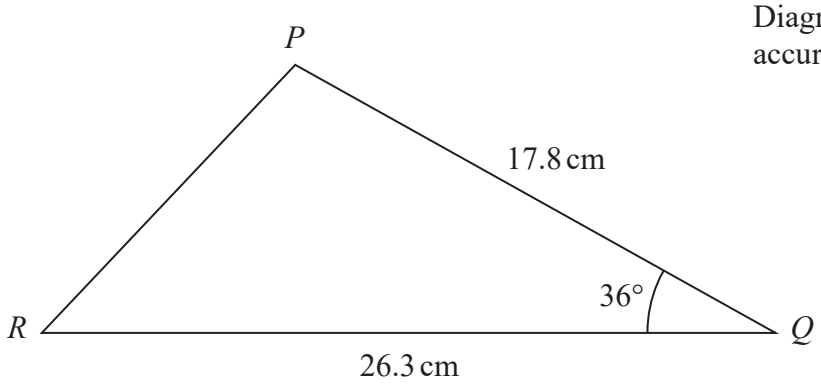
Work out the size of the largest angle of the triangle.
Give your answer correct to 1 decimal place.

.....°

(Total for Question 18 is 3 marks)

18 The diagram shows triangle PQR.

Diagram **NOT** accurately drawn



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

..... cm

(Total for Question 18 is 3 marks)

18 Here is a quadrilateral *ABCD*.

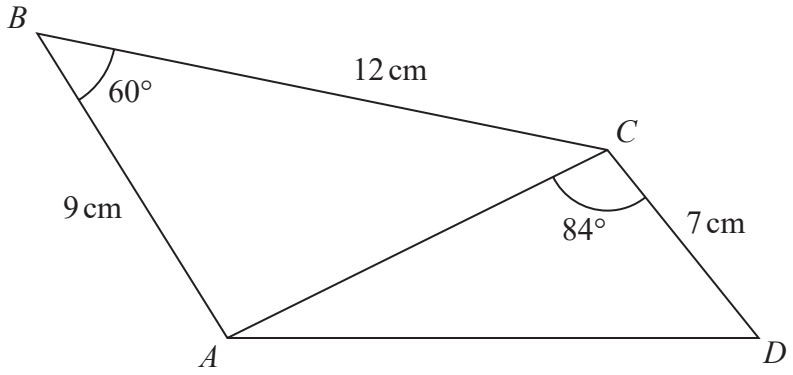


Diagram **NOT** accurately drawn

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

..... cm^2

(Total for Question 18 is 5 marks)

19 *ABCD* is a quadrilateral.

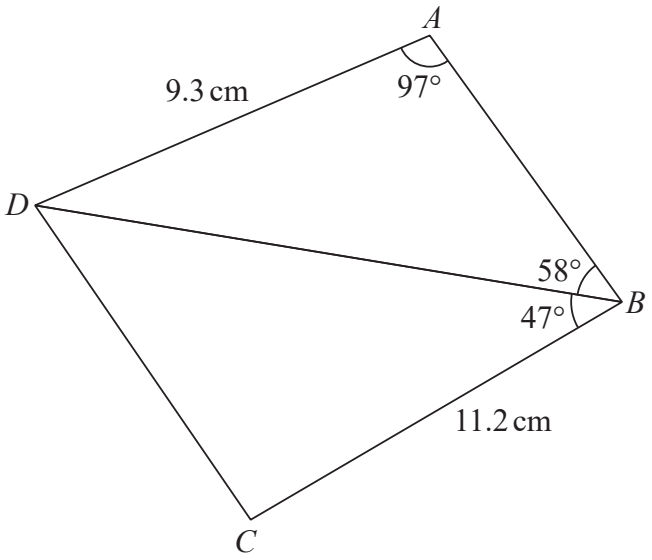


Diagram **NOT** accurately drawn

Find the area of quadrilateral *ABCD*.
Give your answer correct to 3 significant figures.

..... cm^2

(Total for Question 19 is 5 marks)

19 Here is quadrilateral *ABCD*

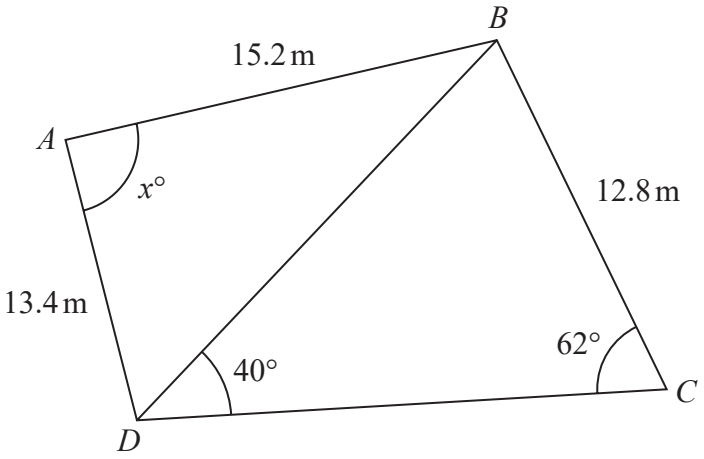


Diagram **NOT** accurately drawn

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

$x =$ .....

(Total for Question 19 is 5 marks)

19 *ABCD* is a quadrilateral.

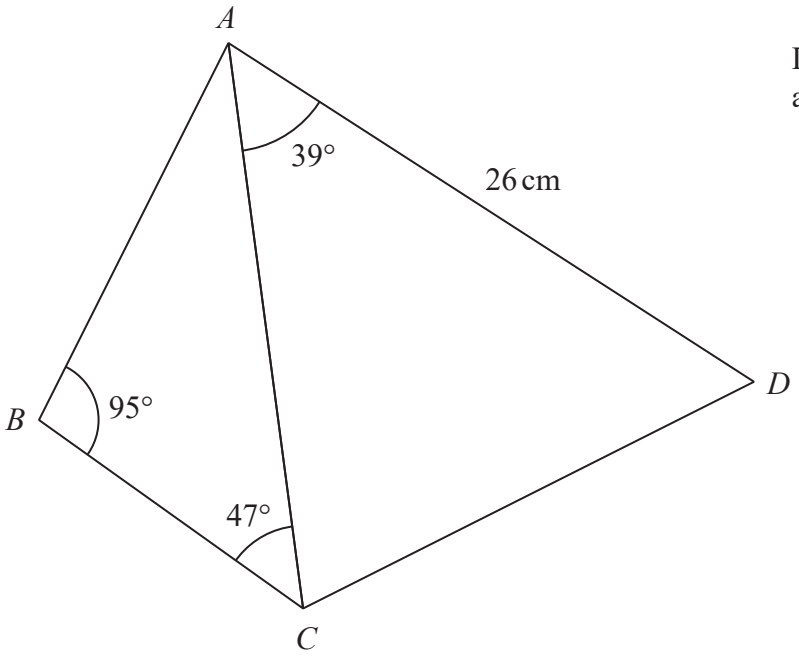


Diagram **NOT** accurately drawn

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 19 is 6 marks)

21 Here is a triangle XYZ.

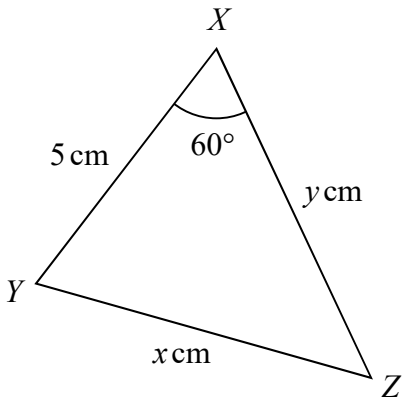


Diagram **NOT** accurately drawn

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 21 is 5 marks)

22 ABC is an isosceles triangle in a horizontal plane.
The point T is vertically above B.

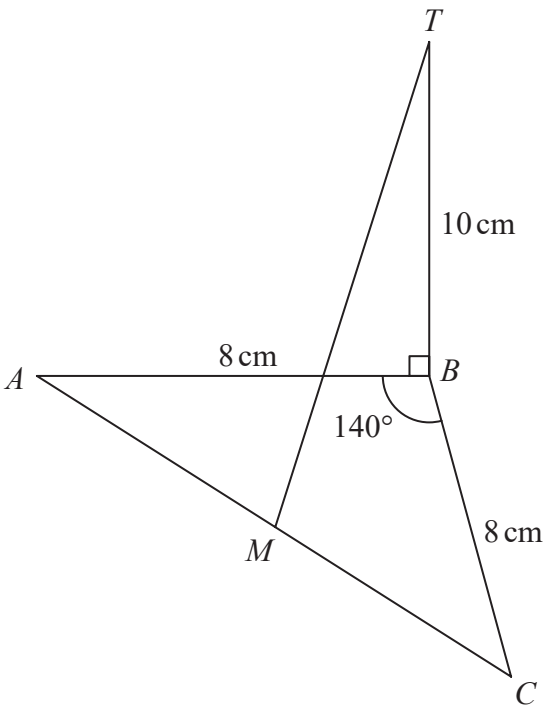


Diagram **NOT** accurately drawn

Angle $ABC = 140°$
$AB = BC = 8$ cm
$TB = 10$ cm
M is the midpoint of AC.

Calculate the size of the angle between MT and the horizontal plane ABC.
Give your answer correct to one decimal place.

.....°

(Total for Question 22 is 4 marks)

22 The diagram shows a triangle ABC and a flagpole BF

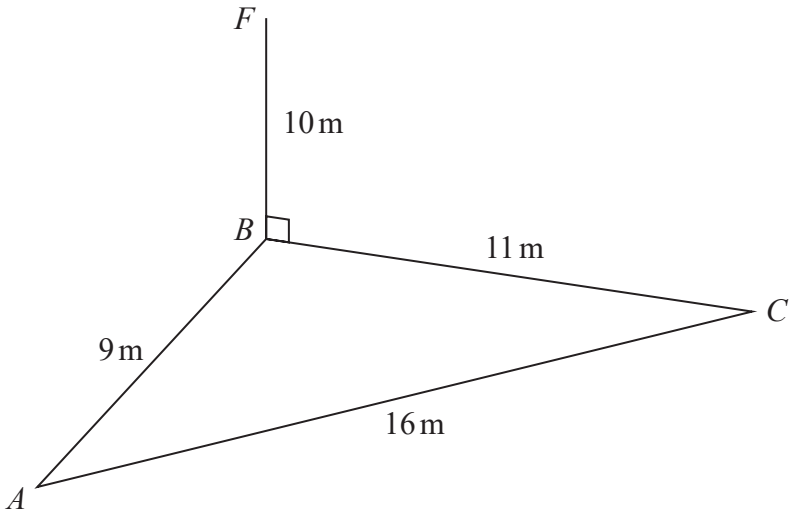


Diagram **NOT** accurately drawn

A, B and C are points on horizontal ground.

BF is vertical.

$AB = 9\,\text{m}$ $BC = 11\,\text{m}$ $AC = 16\,\text{m}$ $BF = 10\,\text{m}$

D is the point on AC such that angle $BDC = 90°$

Work out the size of the angle of elevation of the point F from the point D
Give your answer correct to one decimal place.

.....°

(Total for Question 22 is 5 marks)

23 The diagram shows triangle PQR

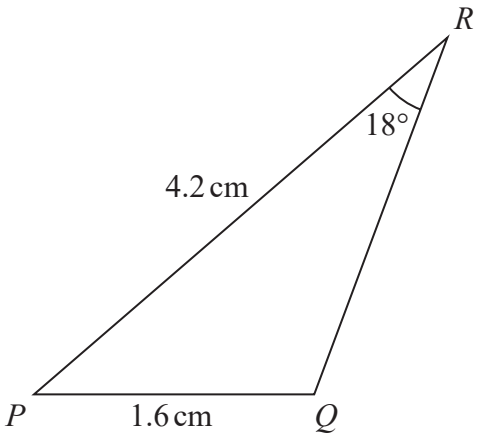


Diagram **NOT** accurately drawn

$PQ = 1.6$ cm $\quad PR = 4.2$ cm $\quad$ 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 23 is 6 marks)

24 A, B and C are three points on horizontal ground.

$AB = 8.4$ metres $BC = 9.2$ metres

B is on a bearing of 067° from A
C is on a bearing of 129° from B

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

°

(Total for Question 24 is 6 marks)

25 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 25 is 5 marks)