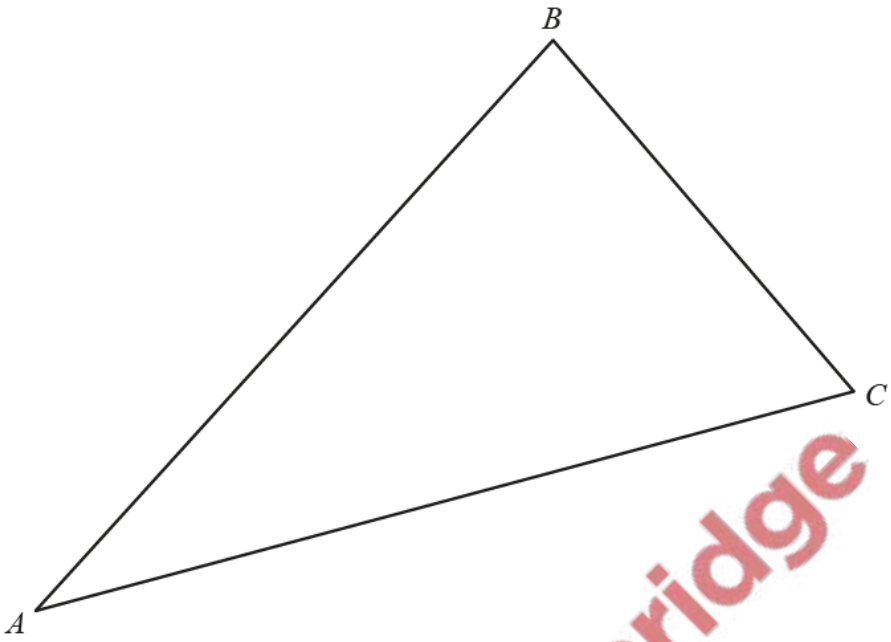
Loci – 2020 O Level Math D

1. Nov/2020/Paper_11/No.15

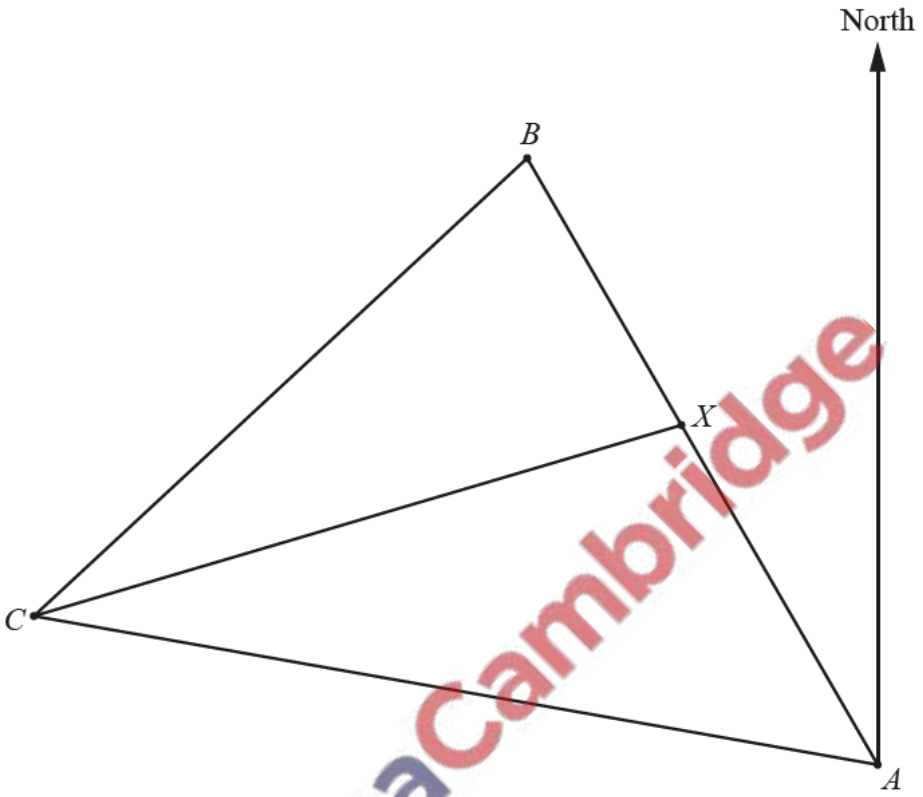


(a) **Using compasses and a straight edge only**, construct the bisector of $A\hat{B}C$. [2]

(b) On the diagram, draw the locus of points **inside** triangle ABC that are 3 cm from AC. [1]

2. Nov/2020/Paper_12/No.17

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



(a) By measurement, find the bearing of B from A.

..... [1]

(b) CX is the bisector of angle ACB.

(i) **Using compasses and a straight edge only**, construct the locus of points inside triangle ABC that are equidistant from B and C. [2]

(ii) A ship is

- nearer to AC than to BC

and

- nearer to C than to B.

Shade the region in which this ship is situated. [1]

3. Nov/2020/Paper_21/No.3

(a) In triangle PQR, $PR = 7.5\,\text{cm}$ and $QR = 6\,\text{cm}$.

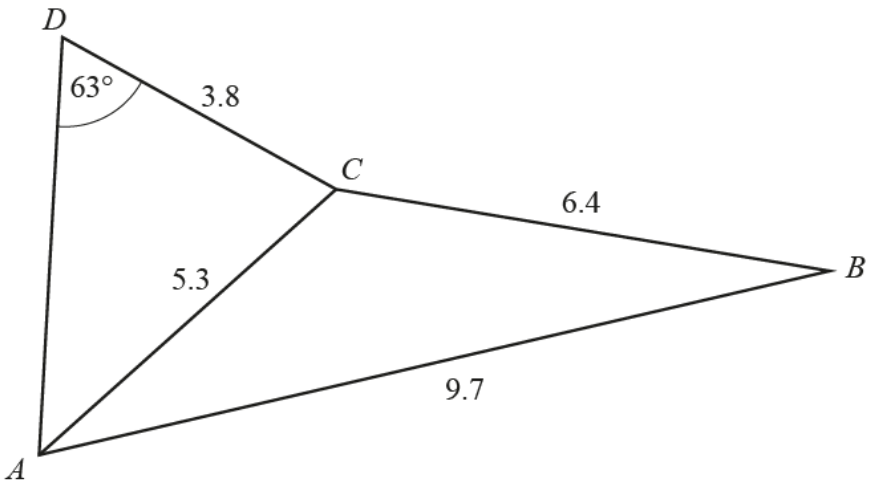
(i) **Using a ruler and compasses only**, construct triangle PQR.
Line PQ has been drawn for you.

[2]

(ii) By taking suitable measurements from your triangle, calculate the area of triangle PQR.

..... cm^2 [2]

(b)



NOT TO SCALE

The diagram shows two triangles.
$AB = 9.7$ cm, $BC = 6.4$ cm, $CD = 3.8$ cm and $AC = 5.3$ cm.
$A\hat{D}C = 63°$.

(i) Calculate $D\hat{A}C$.

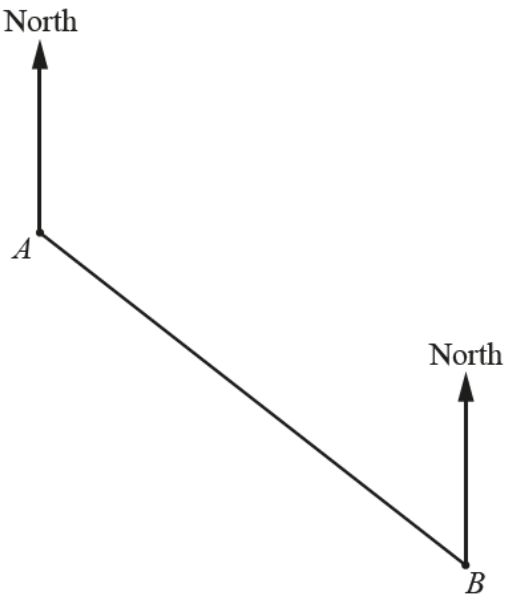
$D\hat{A}C =$ ..... [3]

(ii) Calculate $A\hat{B}C$.

$A\hat{B}C =$ ..... [3]

4. June/2020/Paper_11/No.21

The diagram shows the positions of two ships, A and B, drawn to a scale of 2 cm to 1 km.



Scale: 2 cm to 1 km

(a) Measure the bearing of B from A.

..... [1]

(b) Find the distance between the two ships, A and B, in km.

..... km [1]

(c) A buoy, X, is

- equidistant from A and B

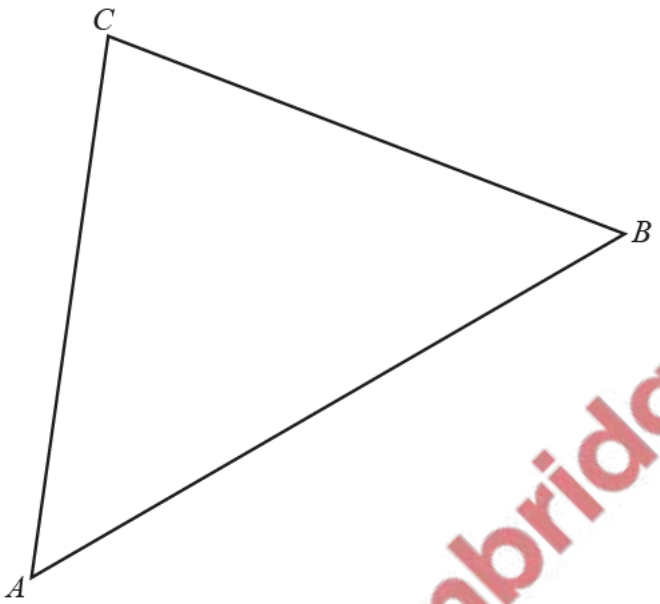
and

- on a bearing of 260° from B.

By making an accurate drawing, mark the position of X on the diagram. [2]

5. June/2020/Paper_12/No.12

Use a straight edge and compasses only in this question.



(a) Construct the locus of points inside triangle ABC that are

(i) 5 cm from B, [1]

(ii) equidistant from A and C. [2]

(b) Shade the region inside triangle ABC containing the points that are

- less than 5 cm from B

and

- closer to A than to C. [1]