



Scan for the solutions

Name: _____ Date: _____ Score: _____ / 53

- 1** The diagram shows triangle ABC , with $AB = 7$ cm, $AC = 10$ cm and angle $BAC = 50^\circ$. Find the length of BC . Give your answer to 3 significant figures.

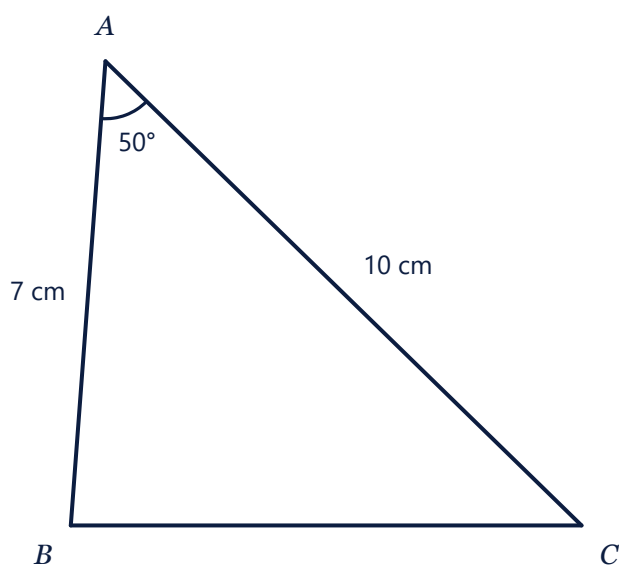


Diagram NOT accurately drawn

(3 marks)

Answer _____

- 2 In triangle ABC , $AB = 12$ cm, angle $ABC = 47^\circ$ and angle $ACB = 58^\circ$
Find the length of AC . Give your answer to 3 significant figures.

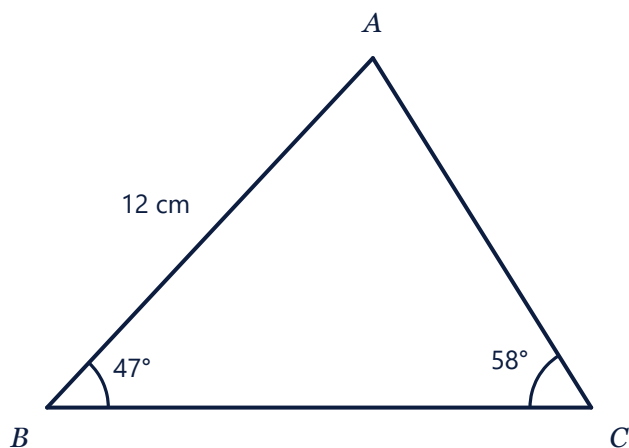


Diagram NOT accurately drawn

(3 marks)

Answer _____

- 3 Triangle ABC has $AB = 5$ cm, $AC = 8$ cm and $BC = 10$ cm.
Find the size of the largest angle in the triangle. Give your answer in degrees to 1 decimal place.

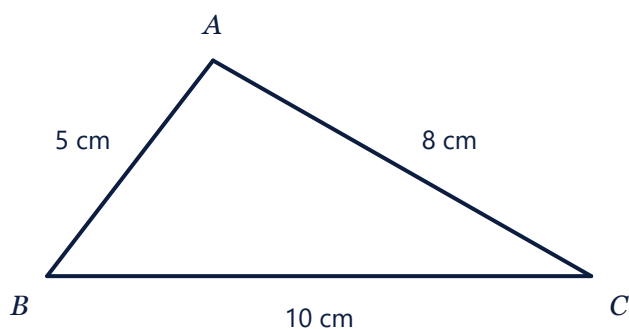


Diagram NOT accurately drawn

(3 marks)

Answer _____

- 4 The diagram shows triangle ABC with $AB = 6.4$ cm, $AC = 8.5$ cm and angle $BAC = 112^\circ$. Find the area of the triangle. Give your answer to 3 significant figures.

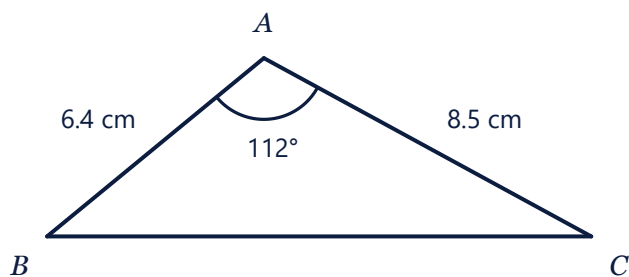


Diagram NOT accurately drawn

(2 marks)

Answer _____

- 5 In triangle ABC , $AB = 14$ cm, $BC = 9$ cm and angle $ABC = 63^\circ$.
- Find the length of AC , giving your answer to 3 significant figures.
 - Find the size of angle BAC , giving your answer to 1 decimal place.

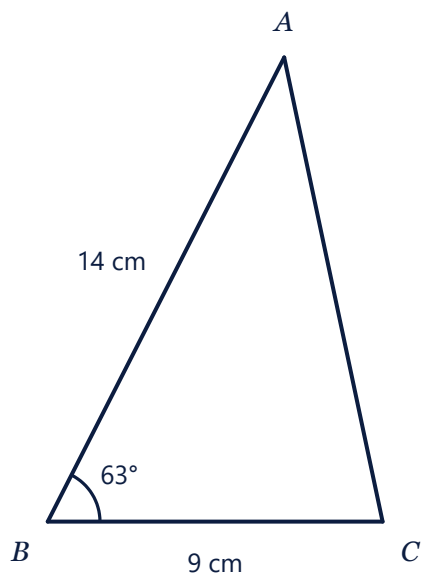


Diagram NOT accurately drawn

(5 marks)

Answer _____

6

In triangle ABC , $AB = 11$ cm, $BC = 8$ cm and angle $BAC = 35^\circ$. The diagram shows one possible shape for the triangle.

Find the two possible values of angle ACB , giving your answers to 1 decimal place.

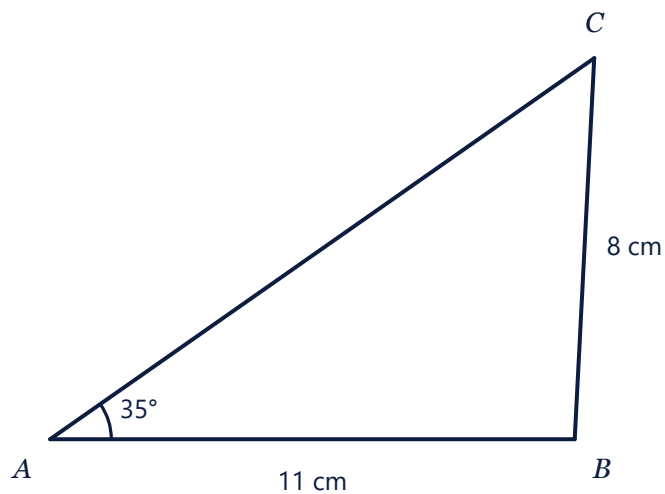


Diagram NOT accurately drawn

(4 marks)

Answer

7

Triangle ABC has area 30 cm^2 . $AB = 8 \text{ cm}$ and angle $BAC = 40^\circ$

a. Find the length of AC .

b. Find the length of BC .

Give your answers to 3 significant figures.

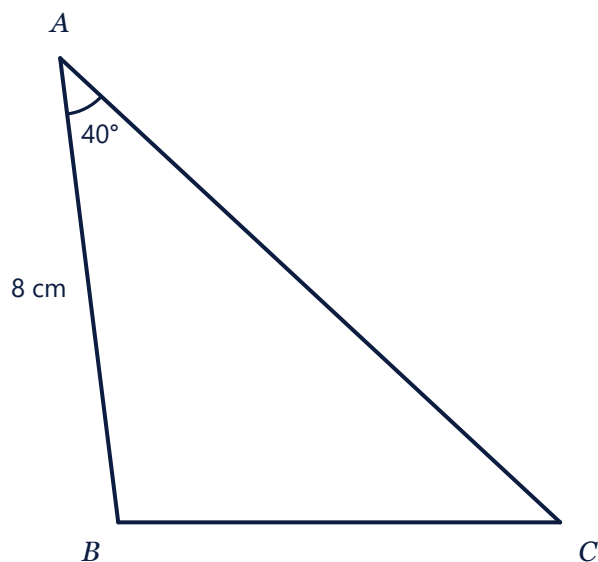


Diagram NOT accurately drawn

(5 marks)

Answer

8

The diagram shows triangle ABC with $AB = x$ cm, $AC = (x + 2)$ cm, $BC = 7$ cm and angle $BAC = 120^\circ$

- Show that $x^2 + 2x - 15 = 0$
- Hence find the value of x .
- Find the exact area of the triangle.

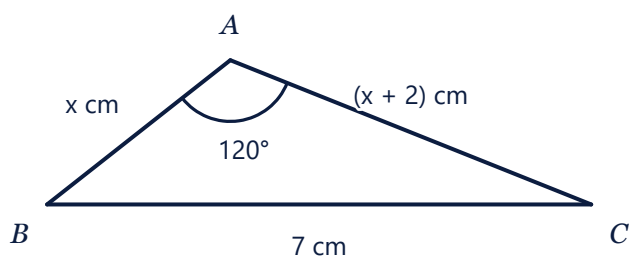


Diagram NOT accurately drawn

(6 marks)

Answer _____

9

A boat leaves harbour A and sails 12 km on a bearing of 050° to a buoy B . It then sails 8 km on a bearing of 150° to a lighthouse C .

- Show that angle $ABC = 80^\circ$
- Find the distance AC , giving your answer to 3 significant figures.
- Find the bearing of C from A , giving your answer to the nearest degree.

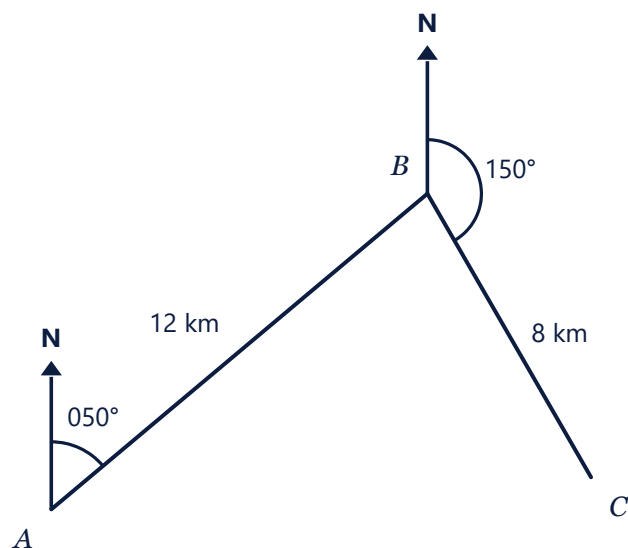


Diagram NOT accurately drawn

(6 marks)

Answer

10 A farmer's field is in the shape of triangle ABC , with $AB = 120$ m, $BC = 95$ m and $AC = 150$ m.

- Find the size of angle ABC , giving your answer to 1 decimal place.
- Find the area of the field in hectares, where 1 hectare = $10\,000\text{ m}^2$. Give your answer to 2 significant figures.

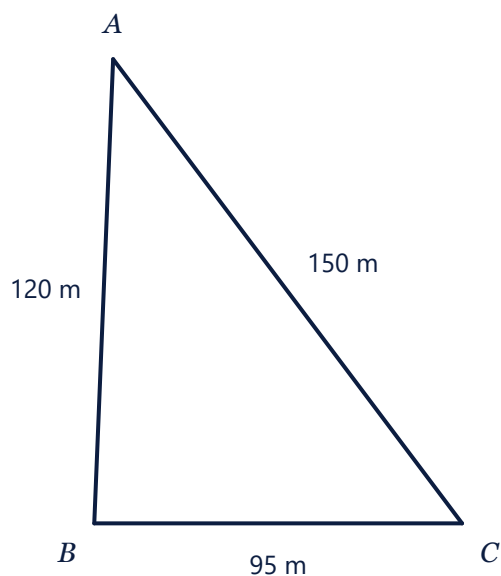


Diagram NOT accurately drawn

(5 marks)

Answer _____

11 Triangle ABC has $AB = 6$ cm, $BC = 4$ cm and $AC = 5$ cm.

a. Show that $\cos ACB = \frac{1}{8}$

b. Hence find the exact area of triangle ABC , giving your answer in the form $k\sqrt{7}$, where k is a rational number.

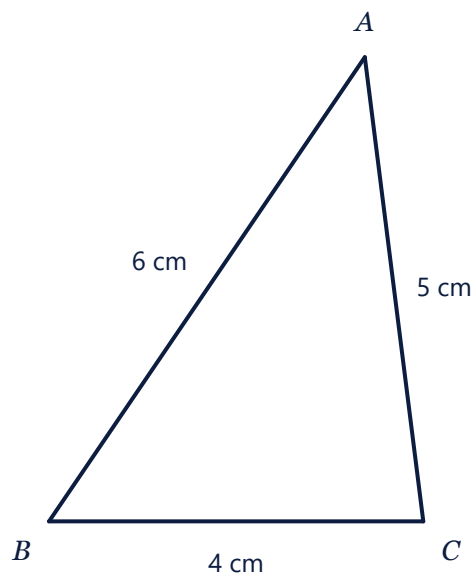


Diagram NOT accurately drawn

(5 marks)

Answer _____

12

In triangle ABC , $AB = 10$ cm, $AC = 6$ cm and angle $ABC = 30^\circ$. The length of BC is a cm. The diagram shows one possible shape for the triangle.

- Show that $a^2 - 10\sqrt{3}a + 64 = 0$
- Hence find the two possible exact lengths of BC .
- Explain why there are two possible triangles.

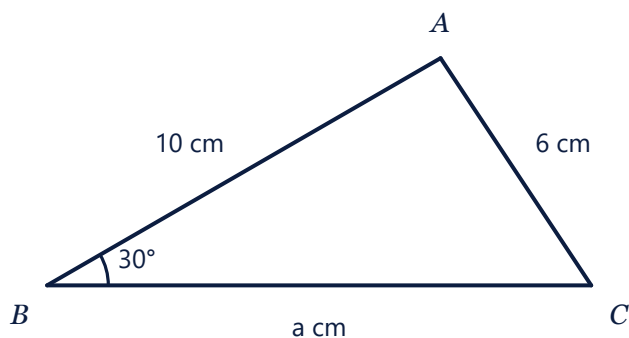


Diagram NOT accurately drawn

(6 marks)

Answer _____

End of questions | Total 53 marks