Name:

Level 2 Further Maths

Sine Rule
Cosine Rule
Area of any Triangle

Corbettmaths

Ensure you have: Pencil or pen

Guidance

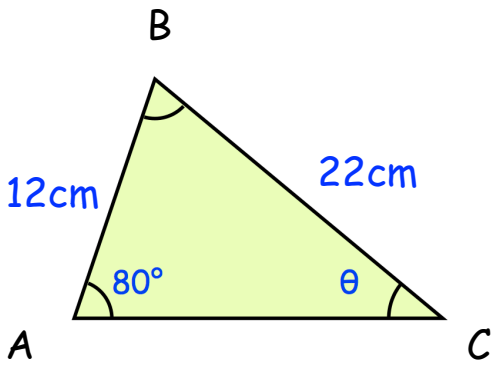
1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

Revision for this topic

www.corbettmaths.com/more/further-maths/

1. In triangle ABC,

AB = 12cm, angle BAC = 80° and BC = 22cm



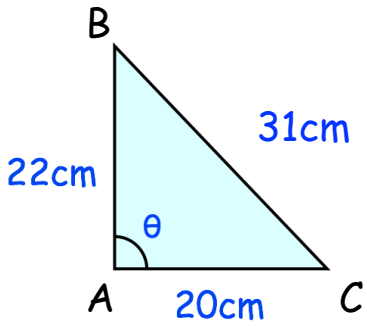
Work out the size of angle ABC

.....°

(3)

2. In triangle ABC,

AB = 22cm AC = 20cm AC = 31cm



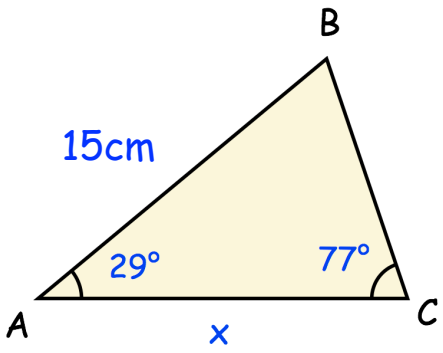
Find the size of angle BAC

.....°

(3)

3. In triangle ABC,

AB = 15cm, angle BAC = 29° and angle ACB = 77°

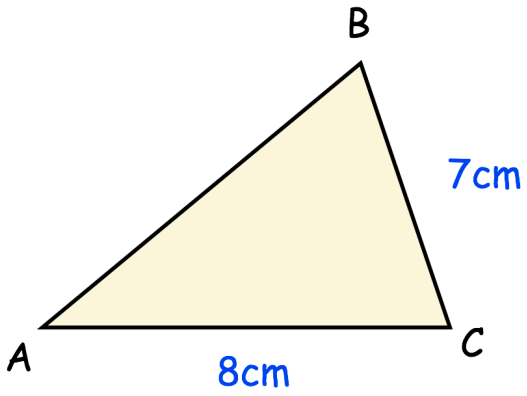


Find the length of the side AC.

……..cm

(3)

4. Shown below is triangle ABC.



The area of the triangle $14\sqrt{3}$ cm²

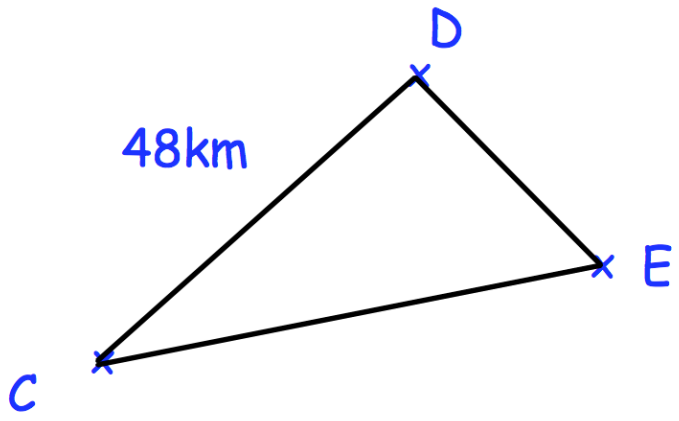
Find the size of angle ACB

.....°

(3)

5. Donhampton is 48km from Castletown on a bearing of 057°.

Eastville is on a bearing of 084° from Castletown and on a bearing of 150° from Donhampton.

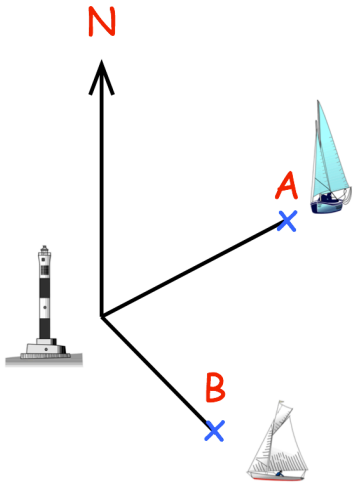


Calculate the distance of Eastville from Castletown.

.....km

(4)

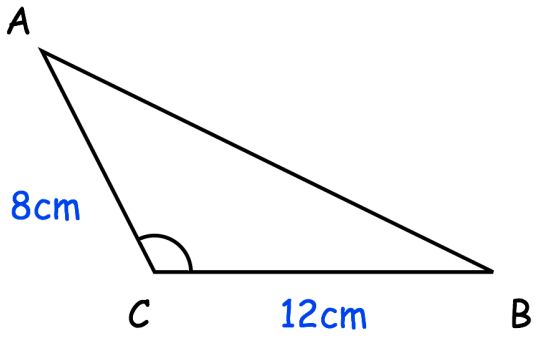
6. Boat A is 28km from a lighthouse on a bearing of 053°
Boat B is 19km from the same lighthouse on a bearing of 164°



Calculate the distance between the two boats.

.....km
(4)

7. The area of triangle ABC is 30cm²
Angle ACB is obtuse.



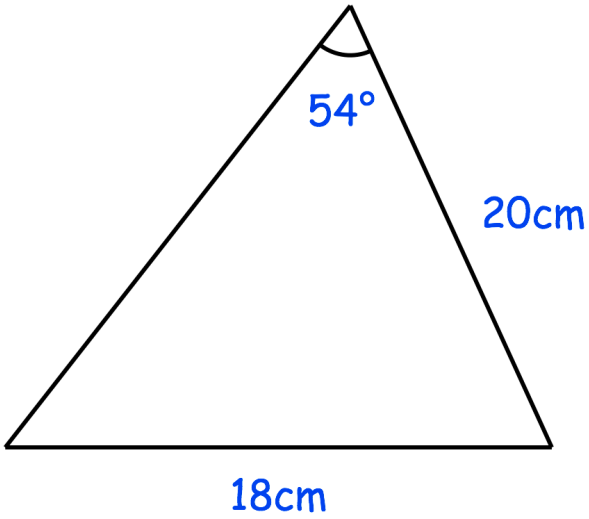
Work out the size of angle ACB.

.....°

(4)

8. Shown below is a triangle.

Not drawn accurately

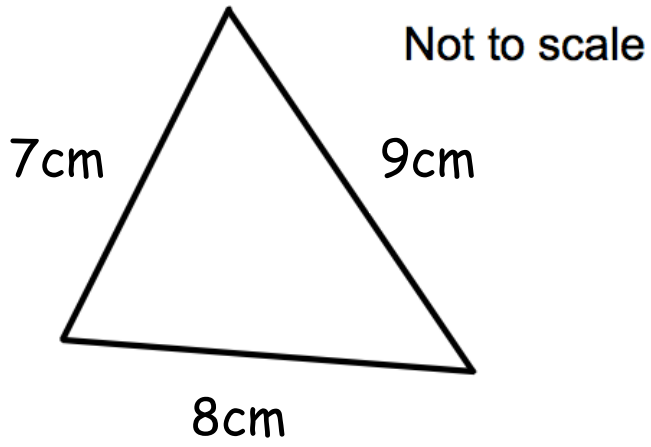


Work out the difference in size between the smallest and largest angles in the triangle.

……..°

(4)

9. Shown below is a triangle.

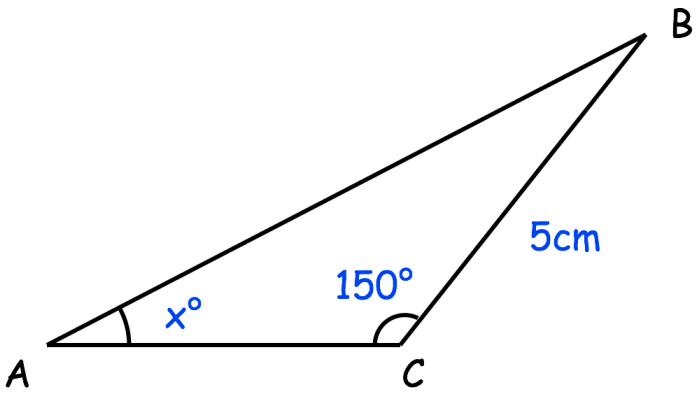


Calculate the area of the triangle

……..cm²

(4)

10. Here is a triangle



BC = 5cm Angle ACB = 150° $sin x° = \frac{1}{\sqrt{10}}$

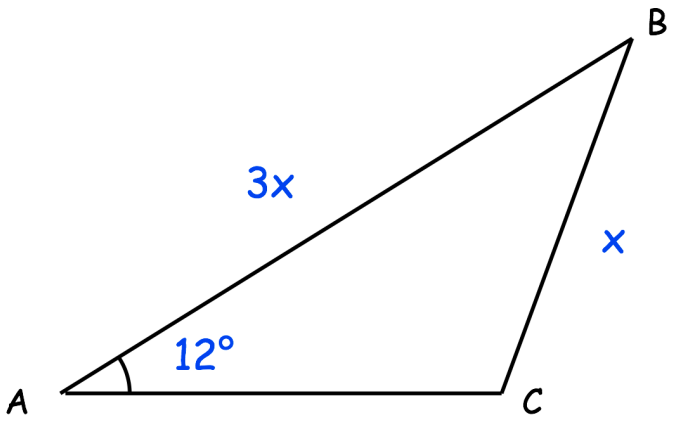
Work out the length of AB

.....cm

(4)

11. Shown below is triangle ABC.

AB = 3x BC = x $\angle BAC = 12°$



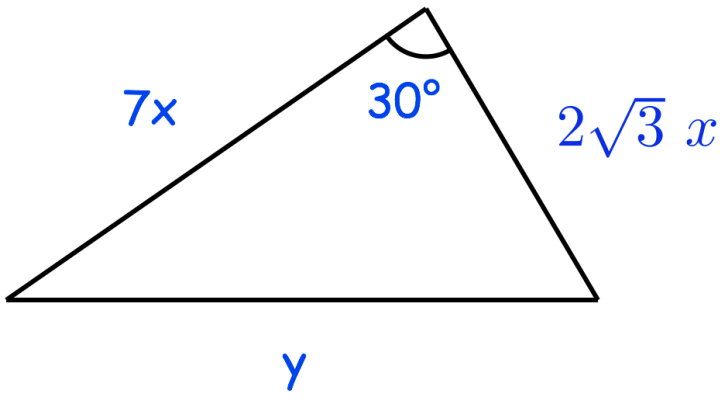
$\angle ACB$ is an obtuse angle.

Find the size of angle $\angle ACB$

……..°

(3)

12.



Express y in terms of x.

.....

(4)

13. Two ships, A and B, leave a port at midday.

Ship A travelled on a bearing of 085° at a speed of 15km/h
Ship B travelled on a bearing of 137° at a speed of 24km/h

(a) How far apart are ships A and B at 15:00?

……..

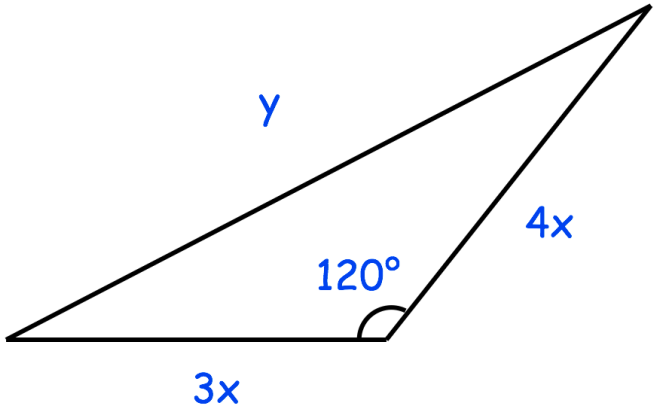
(4)

(b) What is the bearing of ship A from ship B at 15:00?

……..

(3)

14.



Work out the ratio $y : x$

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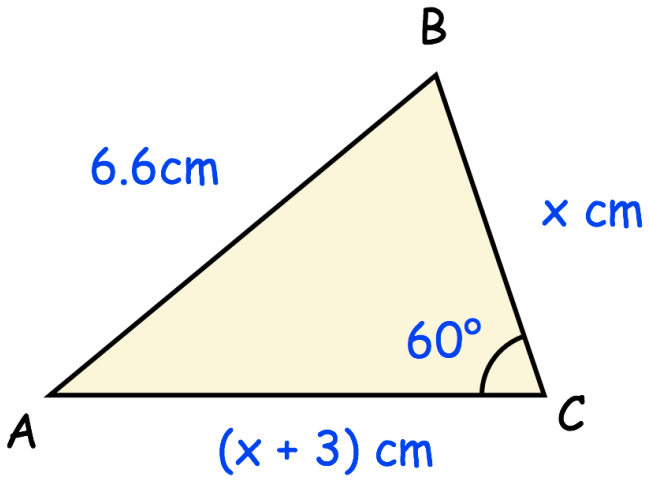
(4)

15.



AB = 6.6cm BC = x cm AC = (x + 3) cm

Angle ACB = 60°

Calculate the perimeter of ABC.
Give your answer to 1 decimal place.

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(7)