

Area of a Triangle Using Sine

For Pearson Edexcel GCSE Mathematics (1MA1) • Higher tier

Name _____

Total marks: **26**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method. You may use a calculator.

1 ABC is a triangle.

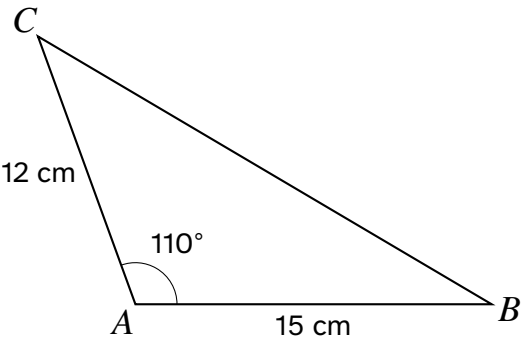


Diagram **NOT** accurately drawn

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

..... cm^2
(2)

(Total for Question 1 is 2 marks)

- 2 Here is an equilateral triangle.

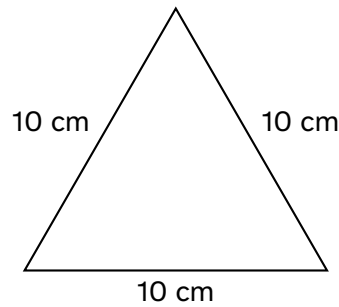


Diagram **NOT** accurately drawn

$$\sin 60^\circ = \frac{\sqrt{3}}{2}$$

Work out the area of the triangle.

Give your answer in the form $a\sqrt{3}$

..... cm^2
(2)

(Total for Question 2 is 2 marks)

- 3 A triangle has area $18\sqrt{3} \text{ cm}^2$.
Two of its sides have lengths 8 cm and x cm, and the angle between them is 60° .
Find the value of x .

$x =$
(3)

(Total for Question 3 is 3 marks)

- 4 PQR is a triangle with $PQ = 7$ cm, $QR = 9$ cm and $PR = 12$ cm.
Work out the area of the triangle.
Give your answer correct to 3 significant figures.

..... cm²
(5)

(Total for Question 4 is 5 marks)

- 5 PQR is a triangle.
 $PQ = 10$ cm and angle $QPR = 42^\circ$

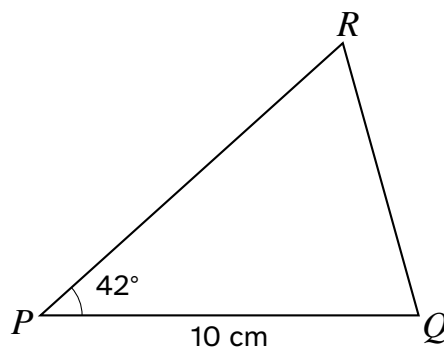


Diagram **NOT** accurately drawn

The area of triangle PQR is 36 cm².
Calculate the length of QR .
Give your answer correct to 3 significant figures.

..... cm
(4)

(Total for Question 5 is 4 marks)

6 Here is triangle ABC .

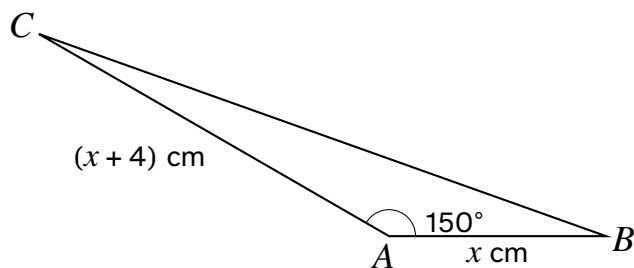


Diagram **NOT** accurately drawn

The area of triangle ABC is 10 cm^2 .

Calculate the value of x .

Give your answer correct to 3 significant figures.

$x = \dots\dots\dots$
(5)

(Total for Question 6 is 5 marks)

7 $ABCDEFGH$ is a regular octagon.

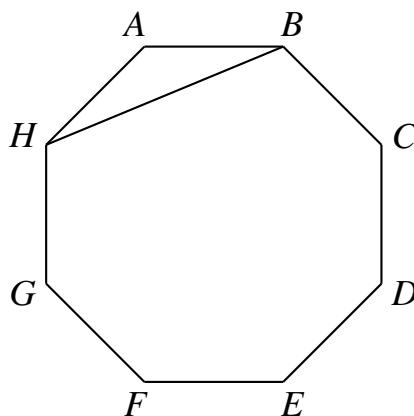


Diagram **NOT** accurately drawn

The area of triangle ABH is 20 cm^2 .
Calculate the length of HB .
Give your answer correct to 3 significant figures.
You must show all your working.

..... cm
(5)

(Total for Question 7 is 5 marks)