THIRD SPACE LEARNING

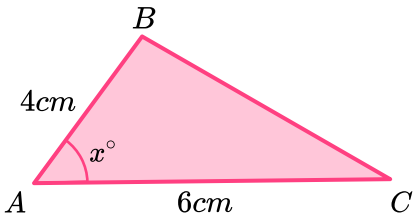
GCSE Exam Questions

Area of a Triangle 1/2abSin(C) | Geometry & Measure

GCSE Exam Questions: Area of a Triangle 1/2abSin(C)

1) **(a)** Which expression represents the area of the triangle ABC?

Circle your answer.



$24 \sin x$	$12 \sin x$
$24 \cos x$	$12 \cos x$

(1)

(b) The area of the triangle is equal to 9.829 cm^2.

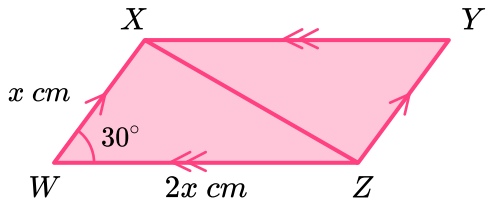
Calculate the value of x correct to 1 decimal place.

(2)

(3 marks)

2) **(a)** Write an expression for the area of the parallelogram $WXYZ$.

Write your answer in its simplest form.



(2)

(b) The area of $WXYZ$ is equal to 2500 cm^2.

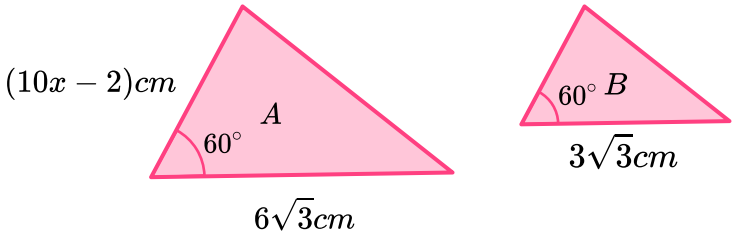
Calculate the value of x.

(1)

(3 marks)

GCSE Exam Questions: Area of a Triangle 1/2abSin(C)

3) **(a)** Triangles A and B are similar. Write an expression in the simplest form for the area of triangle A.



(2)

(b) Hence or otherwise, find the area of B when $x = 5$.

(3)

(5 marks)

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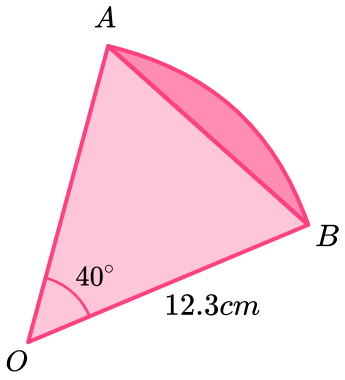
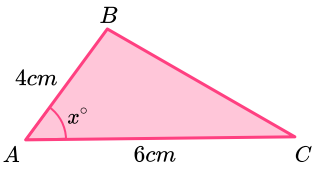
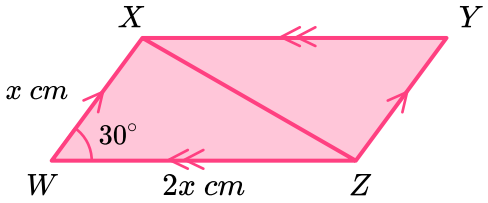
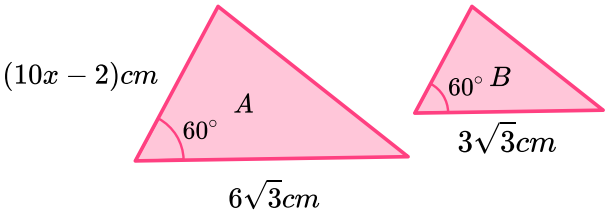
4) The diagram shows the sector of a circle O, radius 12.3 cm.
Work out the area of the segment AB, correct to 3 significant figures.



(4 marks)

GCSE Exam Questions: Area of a Triangle 1/2abSin(C) Answers

	Question	Answer	Marks
1) (a)	For the triangle ABC, which expression represents the area of the triangle?  24 sin (x) 12 sin (x) 24 cos (x) 12 cos (x)	12 sin (x)	**(1)**
(b)	The area of the triangle is equal to 9.829 cm^2. Calculate the value of x correct to 1 decimal place.	sin (x) = 0.819... x = 55.0	**(1)** **(1)**
2) (a)	Write an expression for the area of the parallelogram $WXYZ$.  Write your answer in its simplest form.	$2x^2$ sin(30) x^2	**(1)** **(1)**
(b)	The area of $WXYZ$ is equal to 2500 cm^2. Calculate the value of x	x^2 = 2500 so x = 50cm	**(1)**
3) (a)	Triangles A and B are similar.  Write an expression in the simplest form for the area of triangle A.	$\frac{1}{2} \times (10x - 2) \times (6\sqrt{3}) \times \sin(60)$ $45x - 9$ or $9(5x - 1)$	**(1)** **(1)**
(b)	Hence or otherwise, find the area of B when x = 5.	Area of A = 216 cm^2 Area enlargement = 22 = 4 seen Area of B = 216 ÷ 4 = 54 cm^2	**(1)** **(1)** **(1)**

GCSE Exam Questions: Area of a Triangle 1/2abSin(C) Answers

	Question	Answer	Marks
4)	The diagram shows the sector of a circle O, radius 12.3 cm. Work out the area of the shaded segment, correct to 3 significant figures.	$360 \div 40 = 9$ $\frac{\pi \times 12.3^2}{9}$ $\frac{\pi \times 12.3^2}{9} - \frac{1}{2} \times 12.3\ 2 \times \sin(40)$ $4.19cm^2$ (3sf)	**(1)** **(1)** **(1)** **(1)**

Where to go next?

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