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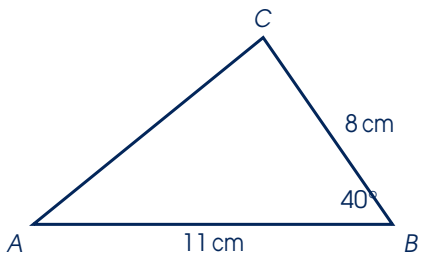
Name ..... Class .....

G23: Area of a triangle

Use Area = $\frac{1}{2}ab\sin C$

20 marks · 25 minutes · Calculator allowed

1) Find the area of a triangle with sides 8 cm and 11 cm and an angle of 40° between them. Give your answer to 3 significant figures.



..... cm^2

[Question 1: 2 marks]

2) Find the area of a triangle with sides 6 cm and 9 cm and an angle of 120° between them. Give your answer to 3 significant figures.

..... cm^2

[Question 2: 2 marks]

3) A triangle has sides 8 cm and 10 cm with an acute angle C between them. Its area is 30 cm^2. Find angle C. Give your answer to 1 decimal place.

..... °

[Question 3: 3 marks]

4) A triangle has area 45 cm^2. Two of its sides are 12 cm and b cm, with an angle of 50° between them. Find b. Give your answer to 3 significant figures.

..... cm

[Question 4: 3 marks]

5) Find the area of an equilateral triangle with sides of 6 cm. Give your answer to 3 significant figures.

..... cm^2

[Question 5: 2 marks]

6) A parallelogram has sides 7 cm and 10 cm and an angle of 65°. Find its area. Give your answer to 3 significant figures.

..... cm^2

[Question 6: 2 marks]

7) An isosceles triangle has two sides of 9 cm with an angle of 36° between them. Find its area. Give your answer to 3 significant figures.

..... cm^2

[Question 7: 2 marks]

8) Find the exact area of a triangle with sides 4 cm and 6 cm and an angle of 30° between them.

..... cm^2

[Question 8: 2 marks]

9) A triangle has sides 5 cm and 8 cm with an angle of 90° between them. Use $\frac{1}{2}ab\sin C$ to find its area.

..... cm^2

[Question 9: 1 marks]

10) Find the area of a triangle with two sides of 7 cm and an angle of 150° between them.

..... cm^2

[Question 10: 1 marks]

End of paper – 20 marks in total

Answers and brief mark scheme

Q	Answer	Method / notes
1	28.3	$\frac{1}{2} \times 8 \times 11 \times \sin 40°$ (M1); A1.
2	23.4	$\frac{1}{2} \times 6 \times 9 \times \sin 120°$ (M1); A1.
3	48.6	$40 \sin C = 30$ (M1); $\sin C = 0.75$ (M1); A1.
4	9.79	$6b \sin 50° = 45$ (M1); rearrange (M1); A1.
5	15.6	$\frac{1}{2} \times 36 \times \sin 60°$ (M1); A1.
6	63.4	$7 \times 10 \times \sin 65°$ (M1); A1.
7	23.8	$\frac{1}{2} \times 81 \times \sin 36°$ (M1); A1.
8	6	$\frac{1}{2} \times 24 \times \frac{1}{2}$ (M1); A1.
9	20	B1.
10	12.25	B1.