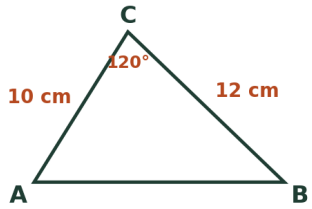
Finding the Area of Any Triangle

Grade 7 topic · Higher tier · Edexcel and AQA

How to use this pack
20 questions that get harder as you go. Questions 1–15 (57 marks) build up to the harder Grade 8–9 style questions at the end; aim to complete all 20. Show your working on the lines and write your final answer on the answer line, then mark yourself with the answers at the back. Diagrams are not drawn accurately. Total: 81 marks.

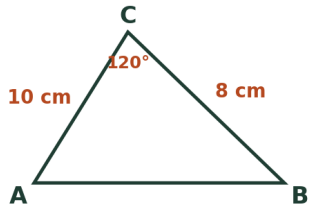
Warm-up

1 Work out the area of the triangle. Give your answer to 3 significant figures. **[3 marks]**



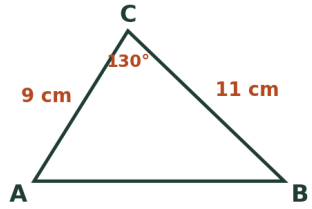
Answer _____

2 Work out the area of the triangle. Give your answer to 3 significant figures. **[3 marks]**



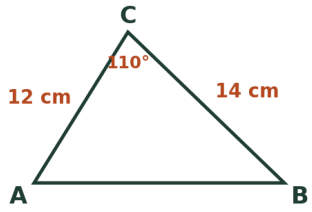
Answer _____

3 Work out the area of the triangle. Give your answer to 3 significant figures. **[3 marks]**



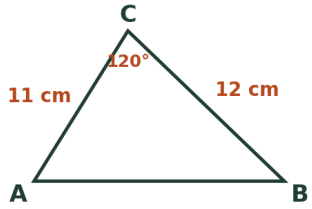
Answer _____

4 Work out the area of the triangle. Give your answer to 3 significant figures. **[3 marks]**



Answer _____

5 Work out the area of the triangle. Give your answer to 3 significant figures. **[3 marks]**



Answer _____

Core

6 A triangle has sides 10 cm and 12 cm with angle 110° between them. Work out its area to 3 s.f. **[3 marks]**

Answer _____

7 A parallelogram has sides 8 cm and 12 cm and an angle of 65° between them. Work out its area to 3 s.f. **[4 marks]**

Answer _____

8 A triangle has area 30 cm². Two sides are 10 cm and 8 cm. Work out the acute angle between them, to 1 d.p. **[4 marks]**

Answer _____

9 Triangle ABC has AB = 7 cm, AC = 9 cm and angle A = 54°. Work out its area to 3 s.f. **[3 marks]**

Answer _____

10 An equilateral triangle has side 10 cm. Work out its area using ½ab sin C, to 3 s.f. **[3 marks]**

Answer _____

Stretch

11 The area of a triangle is 77.9 cm². Two sides are 15 cm and 12 cm. Work out the angle between them (acute), to the nearest degree. **[4 marks]**

Answer _____

12 A triangle has area 50 cm², one side 12 cm and the angle between that side and another side 40°. Work out the other side, to 3 s.f. **[5 marks]**

Answer _____

13 Work out the area of a regular hexagon with side 6 cm (six equilateral triangles), to 3 s.f. **[5 marks]**

Answer _____

14 Triangle ABC has area 40 cm², AB = 10 cm and angle B = 30°. Work out BC. **[5 marks]**

Answer _____

15 The sides of a triangle are 7 cm, 9 cm and 12 cm. Work out its area to 3 significant figures. **[6 marks]**

Answer _____

Challenge

16 A field is a triangle with two sides of 80 m and 120 m and an angle of 50° between them. Work out its area in hectares to 3 s.f. (1 hectare = 10 000 m^2) **[5 marks]**

Answer _____

17 A sector has radius 8 cm and angle 70°. Work out the area of the segment (sector minus triangle), to 3 s.f. **[6 marks]**

Answer _____

18 Show that the area of a triangle with two sides a and b and included angle C equals ½ab sin C. **[5 marks]**

Answer _____

19 Two sides of a triangle are 6 cm and 10 cm. What is the largest possible area? **[5 marks]**

Answer _____

20 A triangle has sides 14 cm and 11 cm with angle 60° between them. Work out its area to 3 s.f. **[3 marks]**

Answer _____