

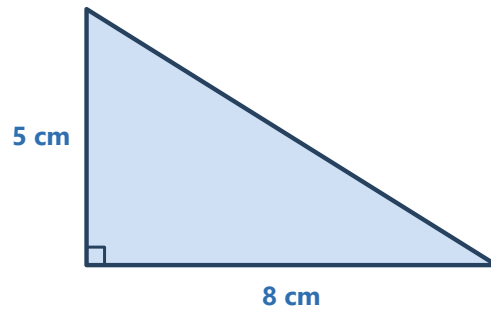
GCSE Maths: Area of triangles and parallelograms (Higher): answers

GCSE Maths - Perimeter, Area and Circles - Higher - Lesson 18.2

Answers. Final answers to the worksheet questions. Full step-by-step solutions for every question are free at websink.site/gcse/maths/ch18-perimeter-area-circles/higher/area-of-triangles-and-parallelograms/

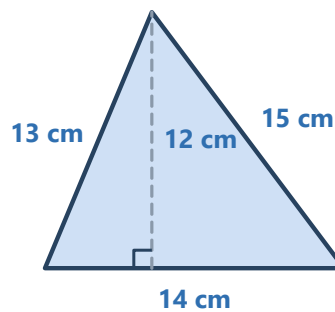
Exercise 18B Triangles and parallelograms Non-calculator

- 1 Work out the area of this right-angled triangle.



Answer: 20 cm^2

- 2 Work out (a) the area and (b) the perimeter of this triangle.



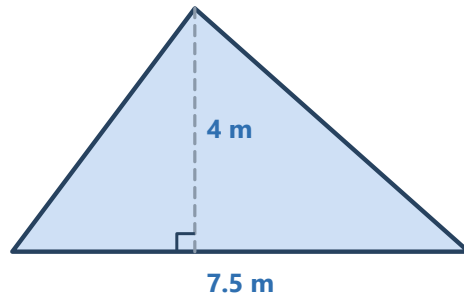
- (a) area

Answer: 84 cm^2

- (b) perimeter

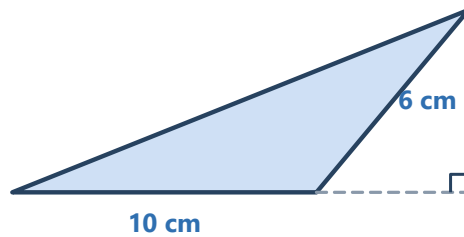
Answer: 42 cm

- 3 Work out the area of this triangle.



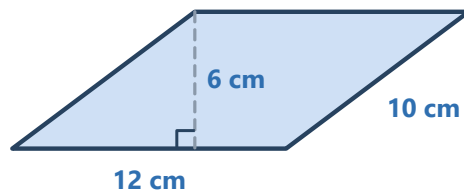
Answer: 15 m^2

- 4 Work out the area of this triangle. The perpendicular height is outside the triangle.



Answer: 30 cm^2

- 5 Work out (a) the area and (b) the perimeter of this parallelogram.



- (a) area

Answer: 72 cm^2

- (b) perimeter

Answer: 44 cm

- 6 Work out (a) the area and (b) the perimeter of this parallelogram.



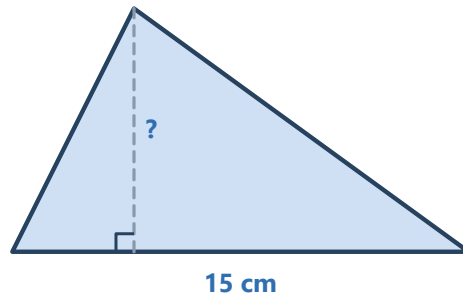
(a) area

Answer: 38 cm^2

(b) perimeter

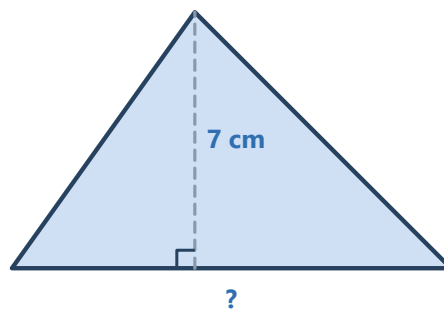
Answer: 29 cm

7 The area of this triangle is 60 cm^2 . Work out the perpendicular height.



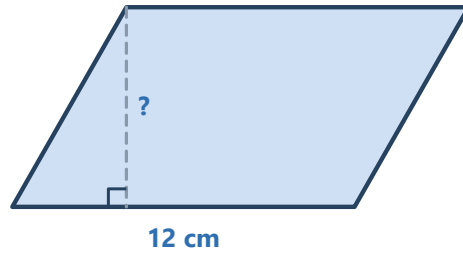
Answer: 8 cm

8 The area of this triangle is 42 cm^2 . Work out the length of the base.



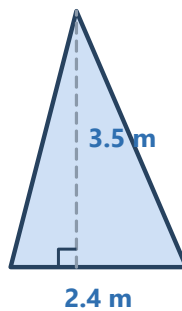
Answer: 12 cm

9 The area of this parallelogram is 84 cm^2 . Work out its perpendicular height.



Answer: 7 cm

- 10** A sail is a triangle with base 2.4 m and perpendicular height 3.5 m. Sailcloth costs £18 per square metre. Work out the cost of the cloth for one sail.



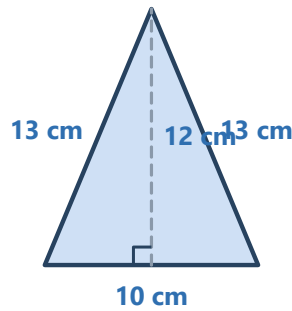
Answer: £75.60

- 11** A flower bed is a parallelogram with base 9 m and perpendicular height 4 m. One bag of compost covers 5 m². How many bags are needed to cover the whole bed?



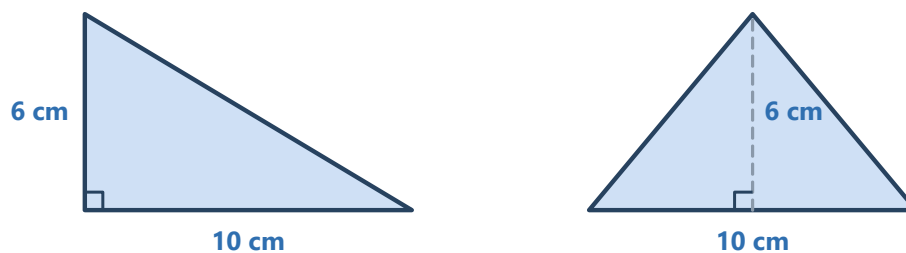
Answer: 8 bags

- 12** Ravi says: "The area of this triangle is $\frac{1}{2} \times 10 \times 13 = 65 \text{ cm}^2$." Explain his mistake and work out the correct area.



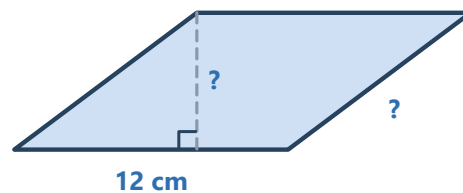
Answer: He used a slanting side; area = 60 cm^2

- 13** Triangle A and triangle B both have a base of 10 cm and a perpendicular height of 6 cm. Zara says they must have the same area. Is she correct? Show your working.



Answer: Yes: both have area 30 cm^2

- 14** A parallelogram has base 12 cm and area 72 cm^2 . Its perimeter is 44 cm. Work out (a) its perpendicular height, (b) the length of a slanting side.



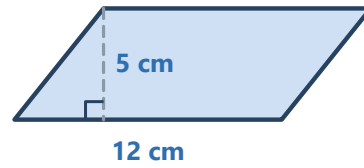
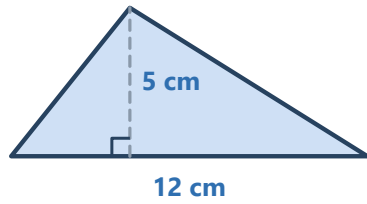
- (a) height

Answer: 6 cm

- (b) slanting side

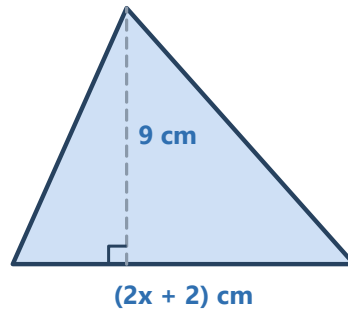
Answer: 10 cm

- 15** A triangle has base 12 cm. A parallelogram has the same base and the same perpendicular height, 5 cm. Show that the area of the parallelogram is double the area of the triangle.



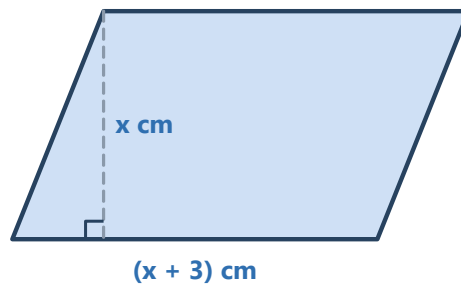
Answer: Triangle 30 cm^2 , parallelogram 60 cm^2 , which is double

- 16** A triangle has base $(2x + 2) \text{ cm}$ and perpendicular height 9 cm . Its area is 54 cm^2 . Work out x .



Answer: $x = 5$

- 17** A parallelogram has base $(x + 3) \text{ cm}$, perpendicular height $x \text{ cm}$ and area 40 cm^2 . (a) Show that $x^2 + 3x - 40 = 0$. (b) Solve the equation to find x .



- (a)** (a) show that

Answer: $x^2 + 3x - 40 = 0$

- (b)** (b) solve

Answer: $x = 5$