

Area of Triangles and Parallelograms



Aim

- I can calculate the area of a triangle and a parallelogram.

Success Criteria

- I know the formula for calculating the area of triangles and parallelograms.
- I can understand why these formulas give the area of triangles and parallelograms.
- I can use the formulae to calculate the area of triangles and parallelograms.

The Area of a Triangle

The area of a triangle is based on being half the area of a rectangle.



The Area of a Triangle

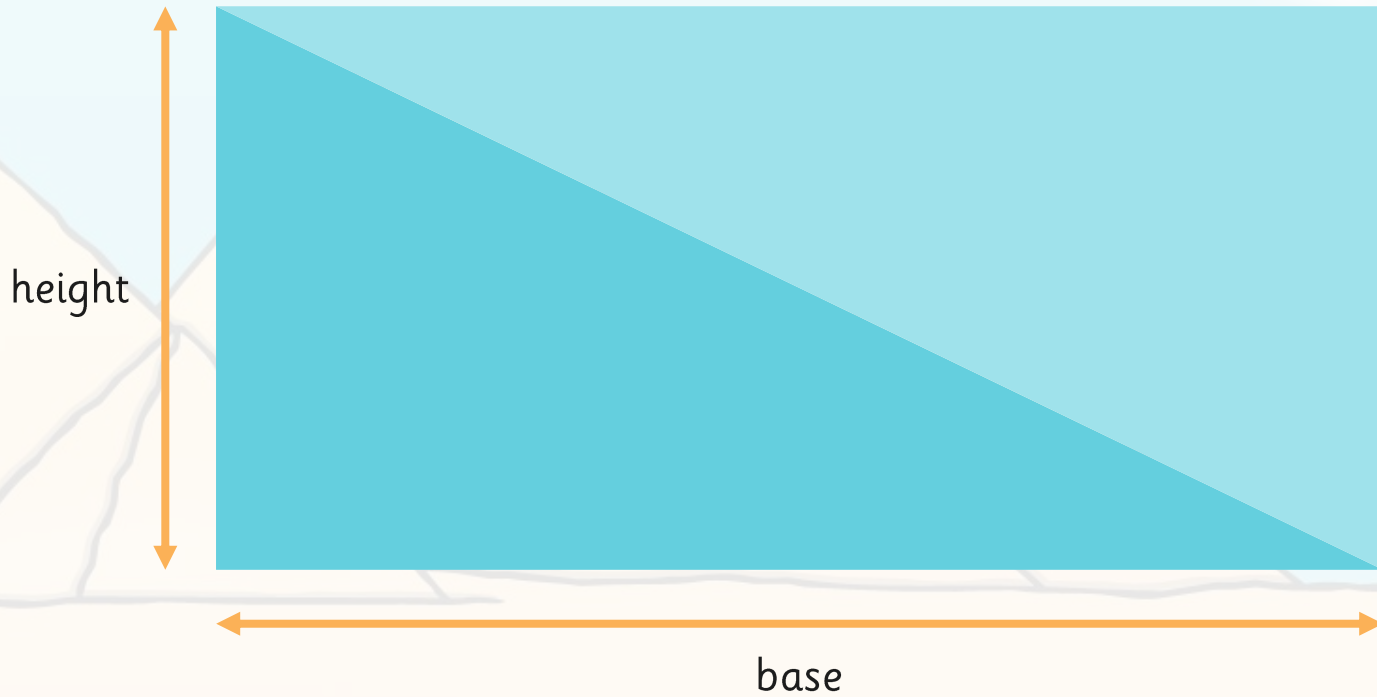


The area of a triangle is based on being half the area of a rectangle.



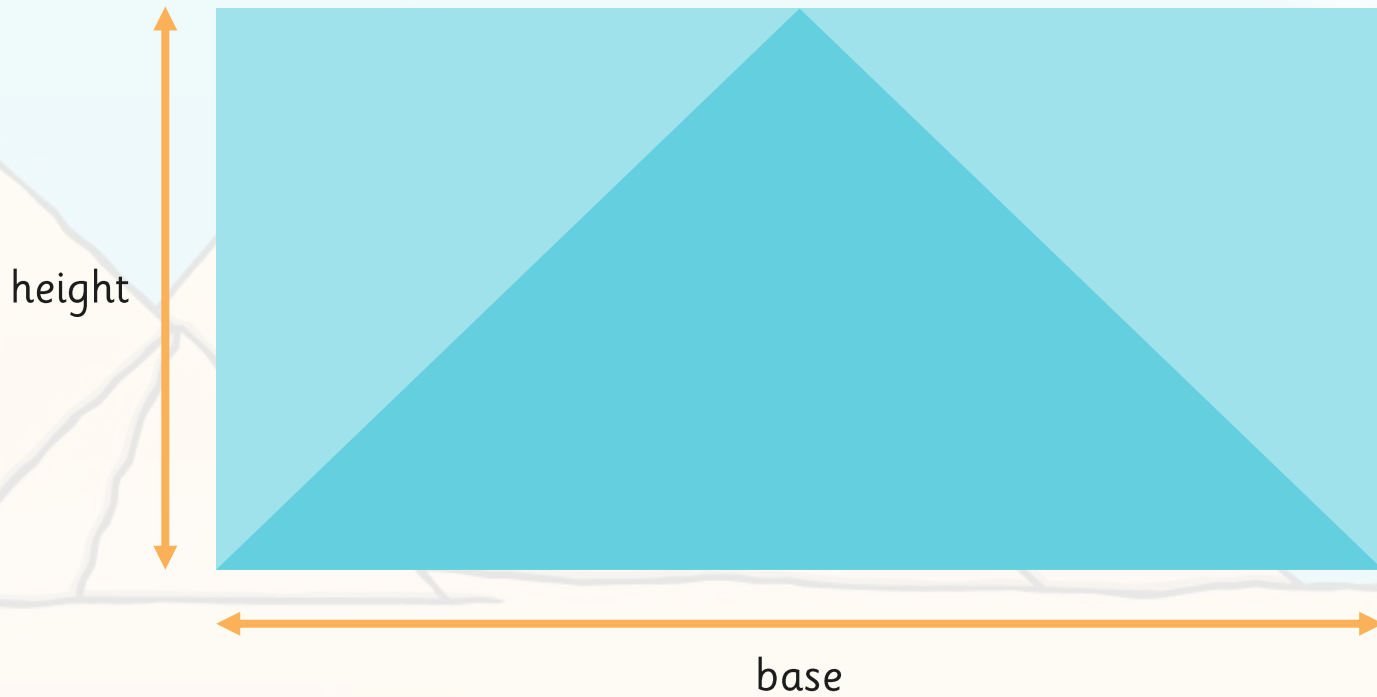
Calculate the Area of a Triangle

Area of a triangle = half the area of the rectangle
= half of the base x height



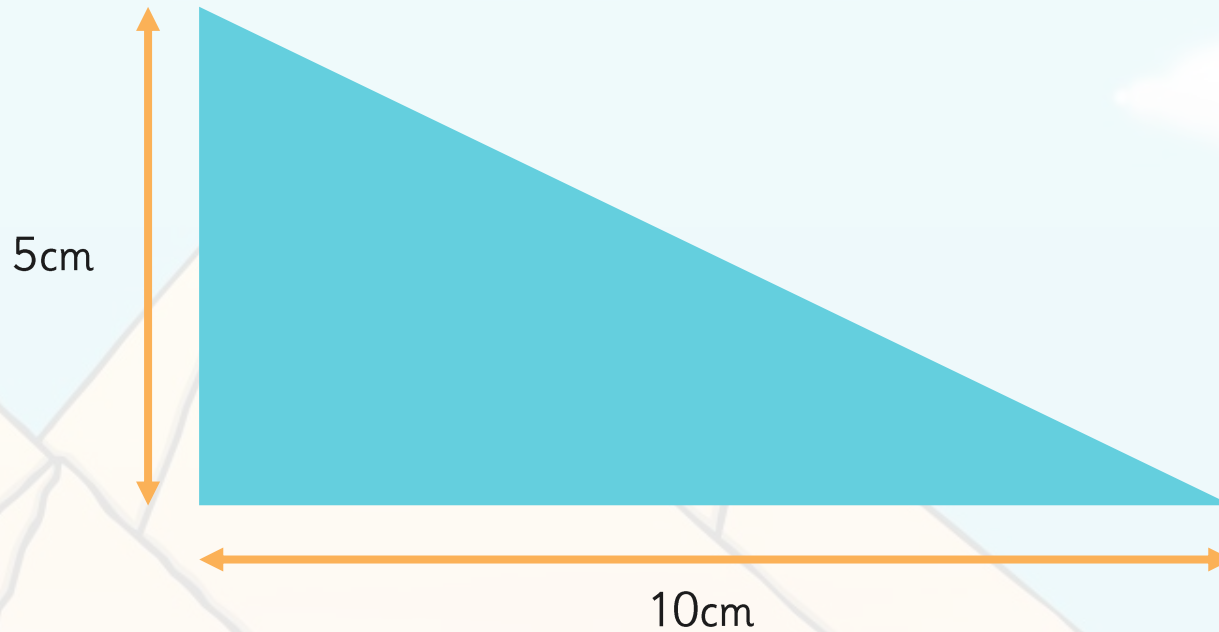
Calculate the Area of a Triangle

Area of a triangle = half the area of the rectangle
= half of the base x height



Calculate

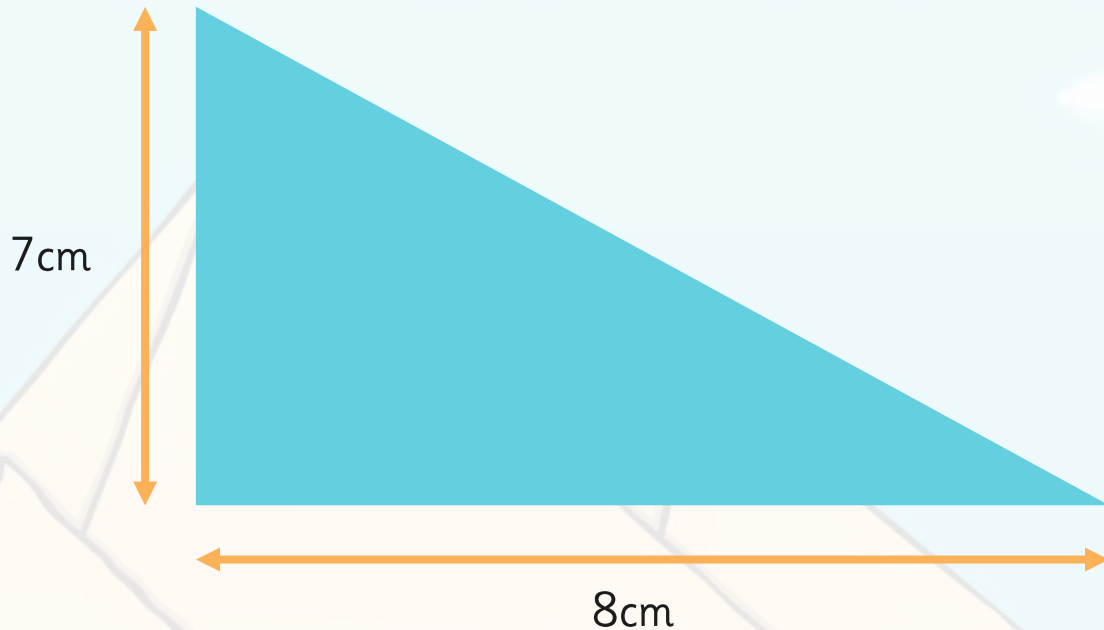
Calculate the area of this triangle.



$$\text{Area} = \frac{1}{2} \times 10\text{cm} \times 5\text{cm} = 25\text{cm}^2$$

Calculate

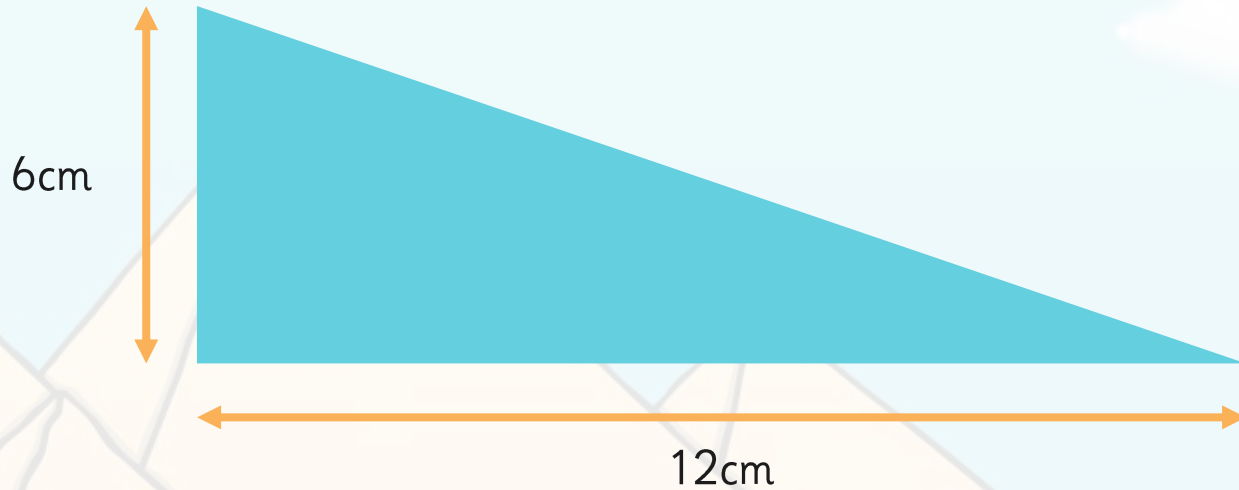
Calculate the area of this triangle.



$$\text{Area} = \frac{1}{2} \times 8\text{cm} \times 7\text{cm} = 28\text{cm}^2$$

Calculate

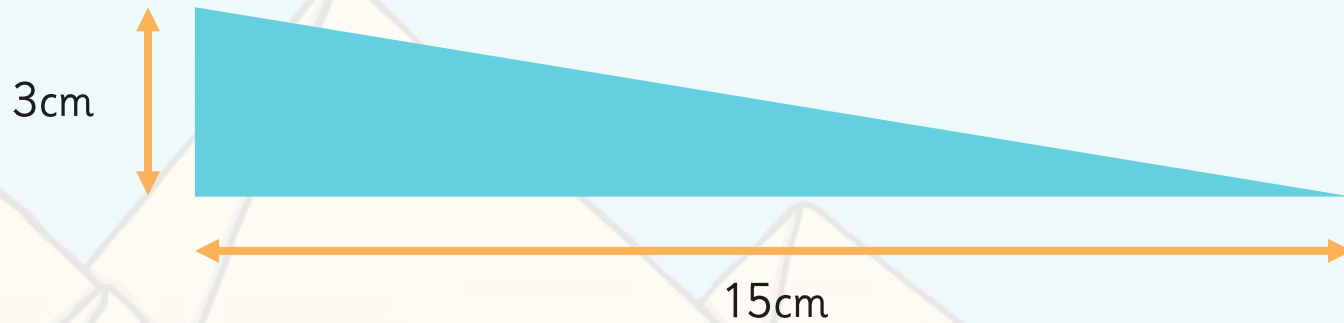
Calculate the area of this triangle.



$$\text{Area} = \frac{1}{2} \times 12\text{cm} \times 6\text{cm} = 36\text{cm}^2$$

Calculate

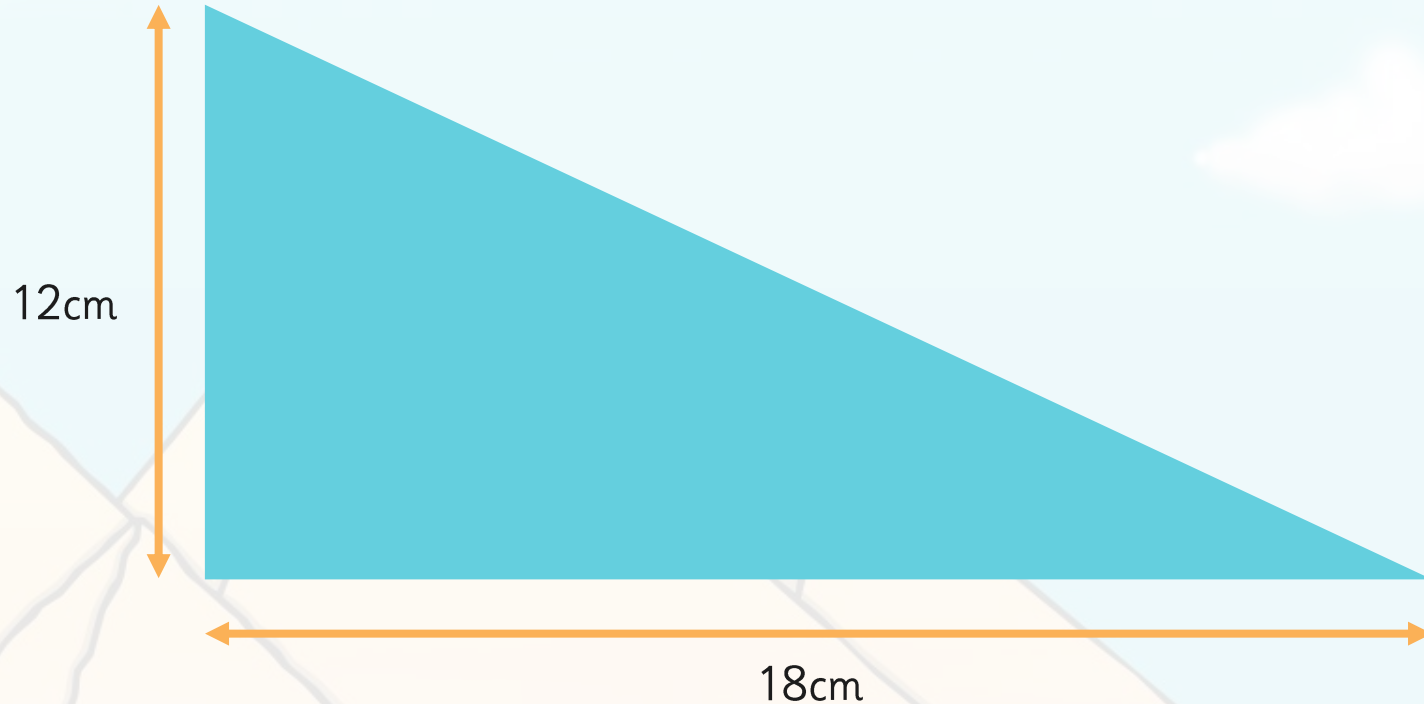
Calculate the area of this triangle.



$$\text{Area} = \frac{1}{2} \times 15\text{cm} \times 3\text{cm} = 22.5\text{cm}^2$$

Calculate

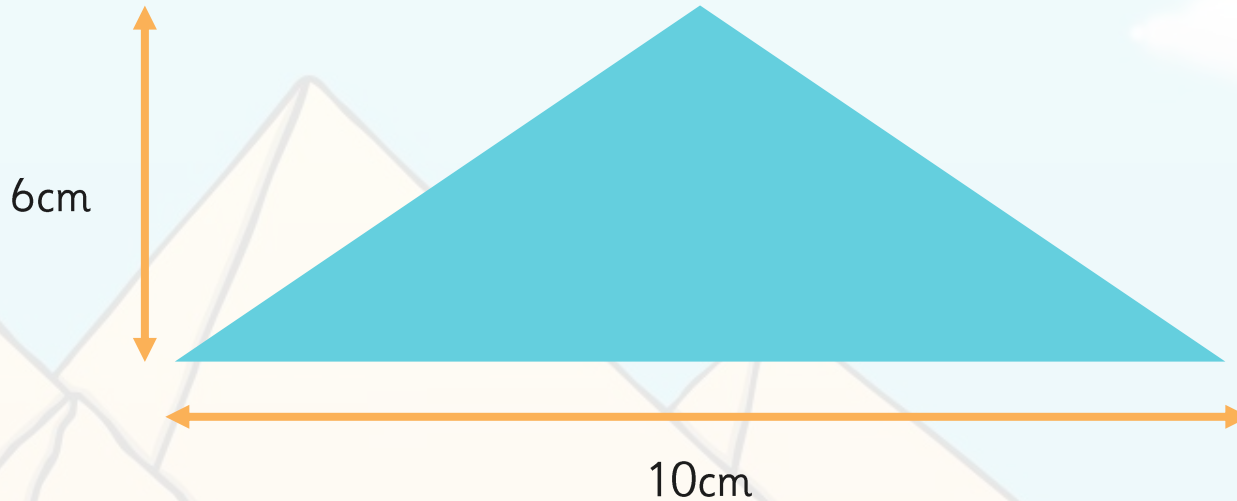
Calculate the area of this triangle.



$$\text{Area} = \frac{1}{2} \times 18\text{cm} \times 12\text{cm} = 108\text{cm}^2$$

Calculate

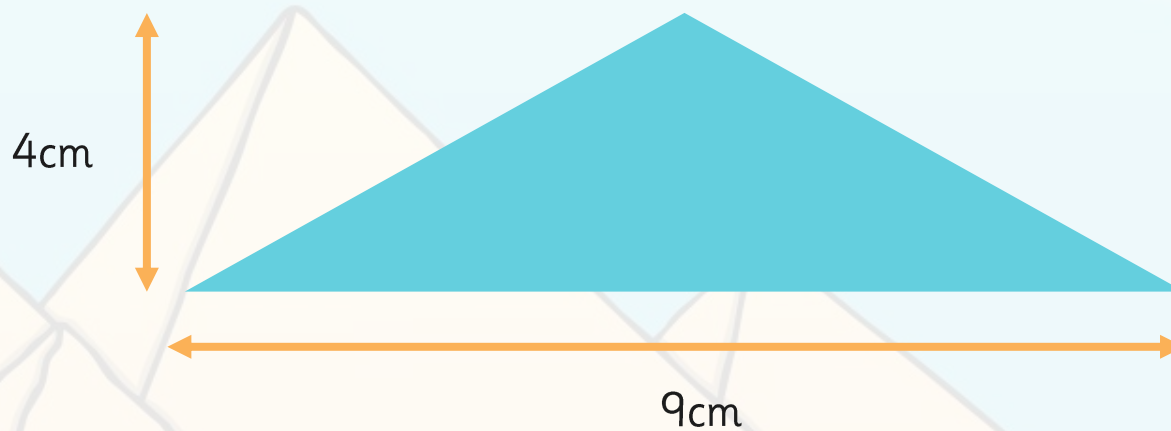
Calculate the area of this triangle.



$$\text{Area} = \frac{1}{2} \times 10\text{cm} \times 6\text{cm} = 30\text{cm}^2$$

Calculate

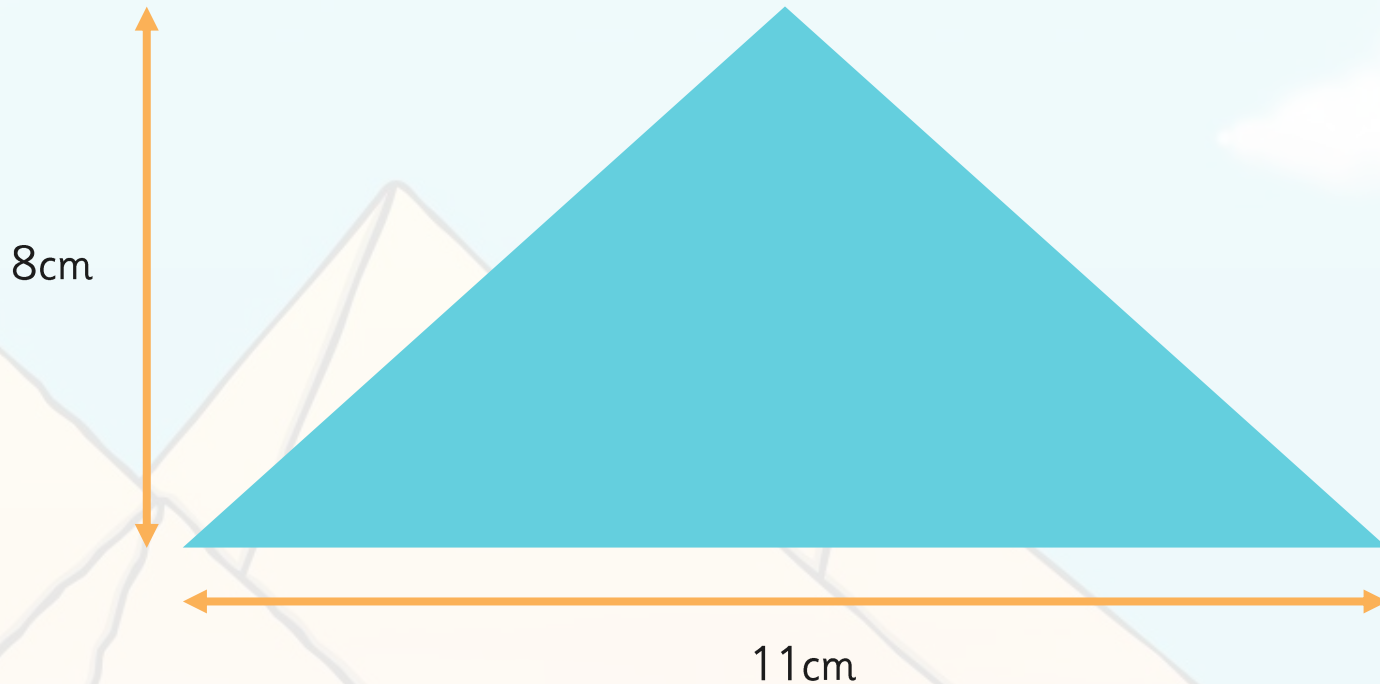
Calculate the area of this triangle.



$$\text{Area} = \frac{1}{2} \times 9\text{cm} \times 4\text{cm} = 18\text{cm}^2$$

Calculate

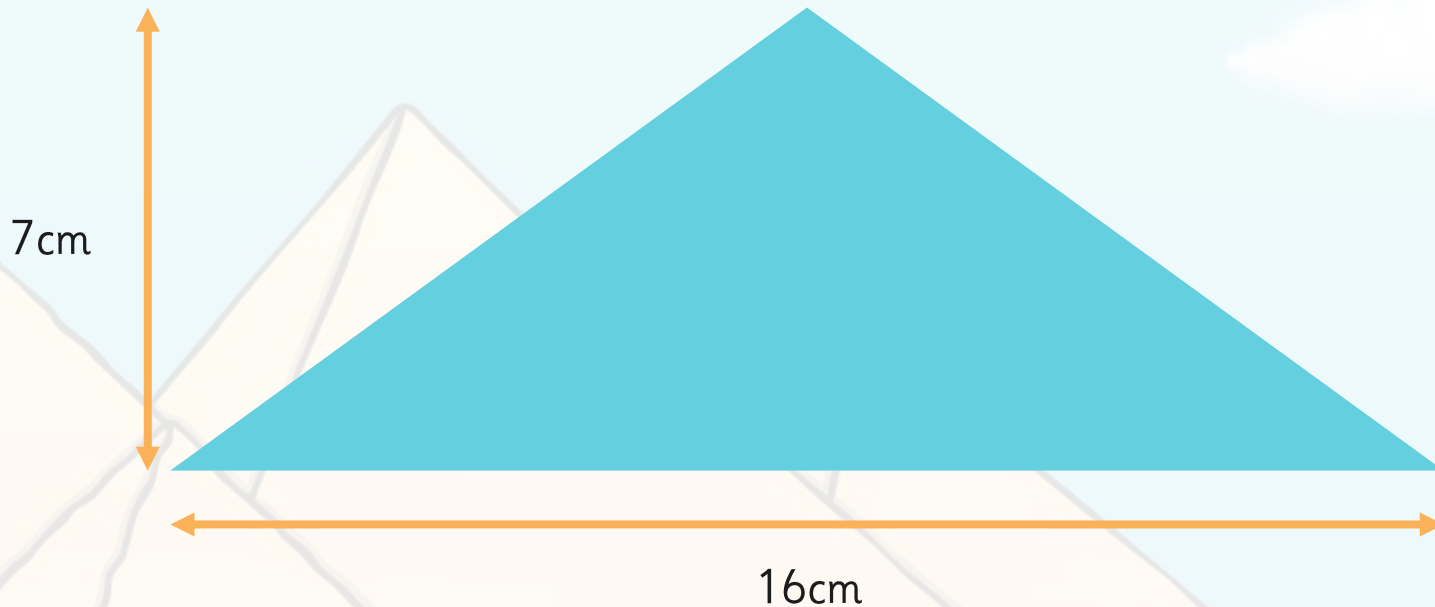
Calculate the area of this triangle.



$$\text{Area} = \frac{1}{2} \times 11\text{cm} \times 8\text{cm} = 44\text{cm}^2$$

Calculate

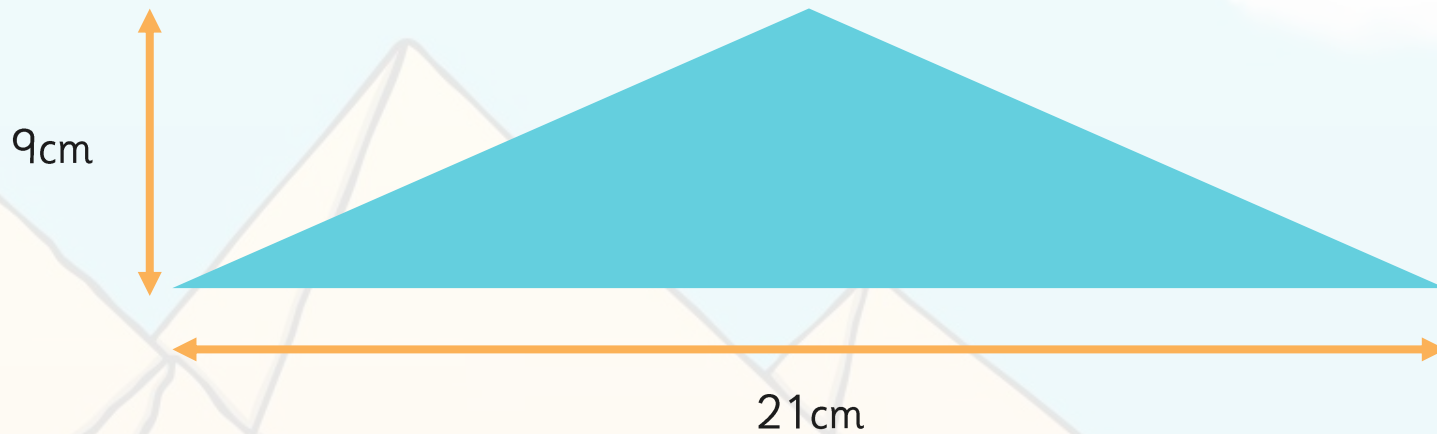
Calculate the area of this triangle.



$$\text{Area} = \frac{1}{2} \times 16\text{cm} \times 7\text{cm} = 56\text{cm}^2$$

Calculate

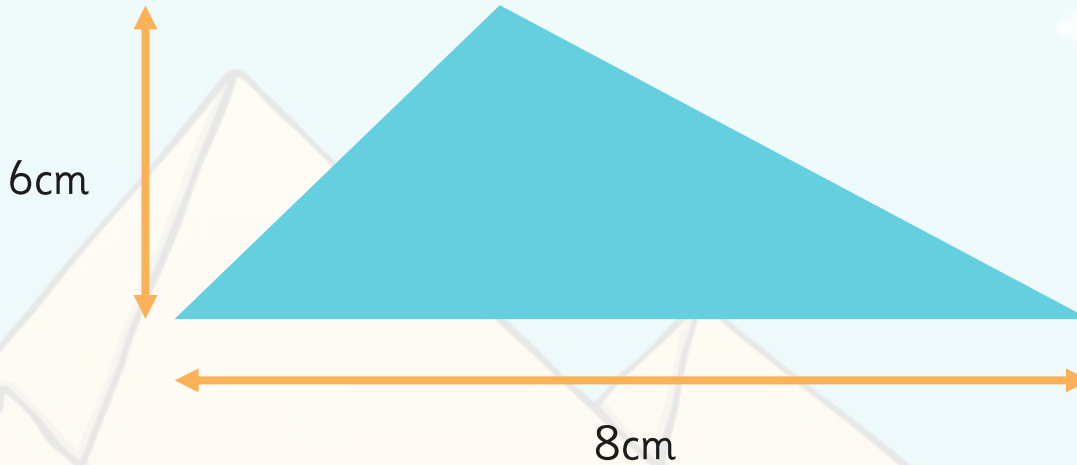
Calculate the area of this triangle.



$$\text{Area} = \frac{1}{2} \times 21\text{cm} \times 9\text{cm} = 94.5\text{cm}^2$$

Calculate

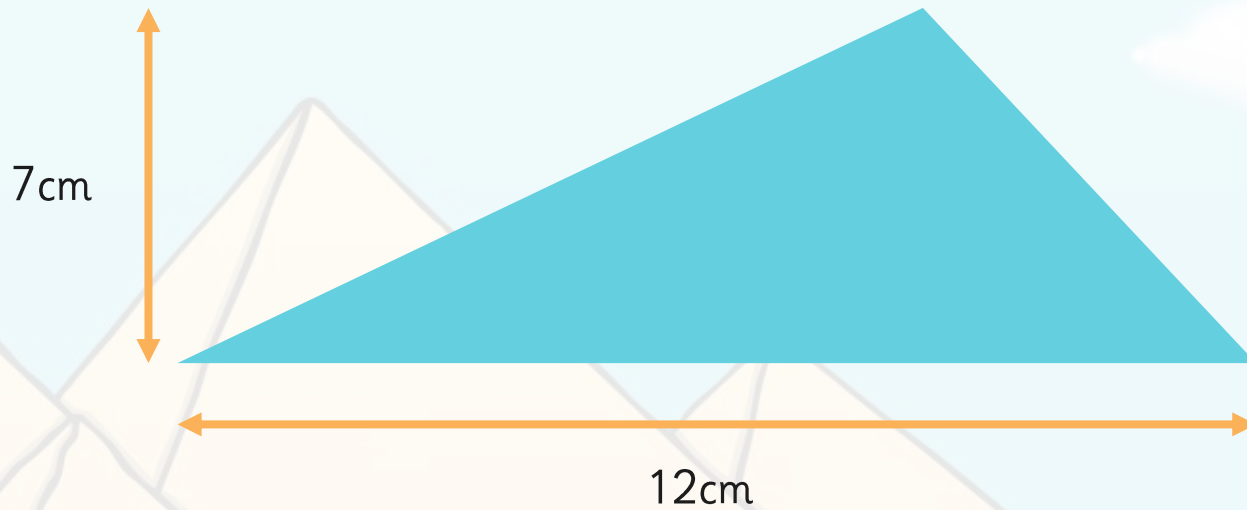
Calculate the area of this triangle.



$$\text{Area} = \frac{1}{2} \times 8\text{cm} \times 6\text{cm} = 24\text{cm}^2$$

Calculate

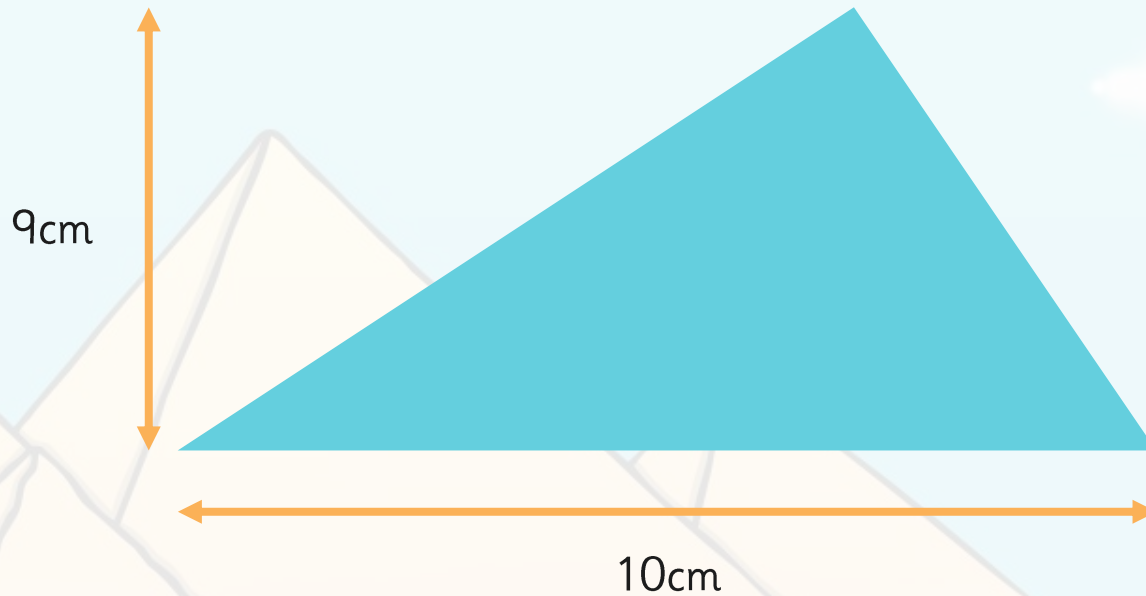
Calculate the area of this triangle.



$$\text{Area} = \frac{1}{2} \times 12\text{cm} \times 7\text{cm} = 42\text{cm}^2$$

Calculate

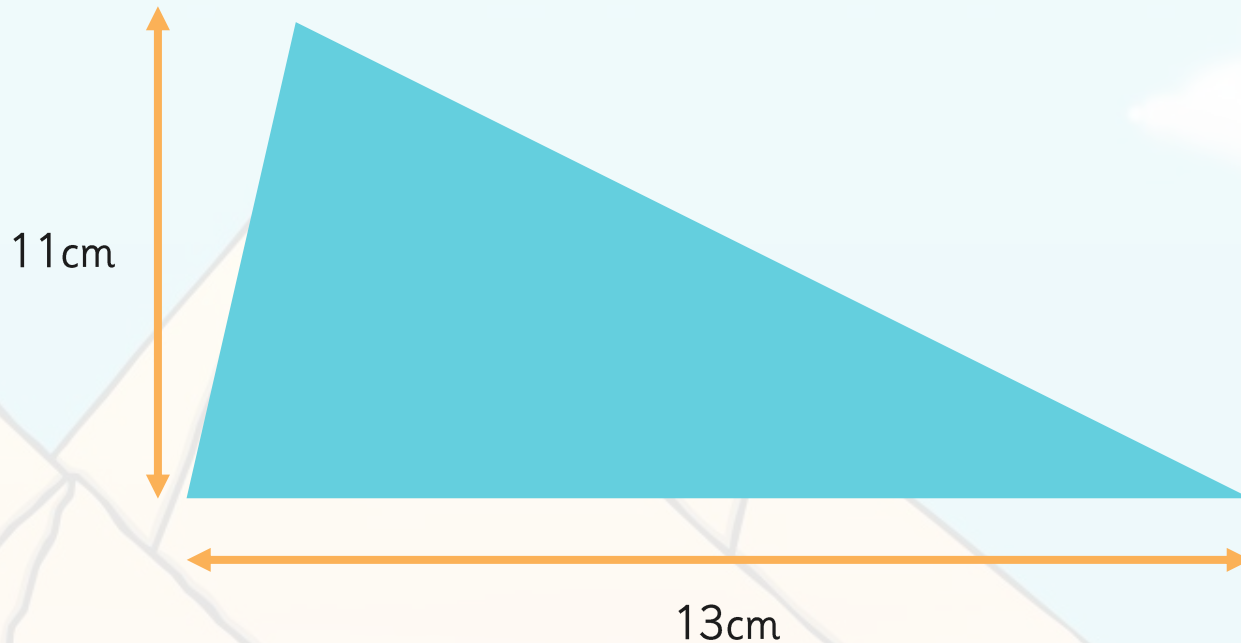
Calculate the area of this triangle.



$$\text{Area} = \frac{1}{2} \times 10\text{cm} \times 9\text{cm} = 45\text{cm}^2$$

Calculate

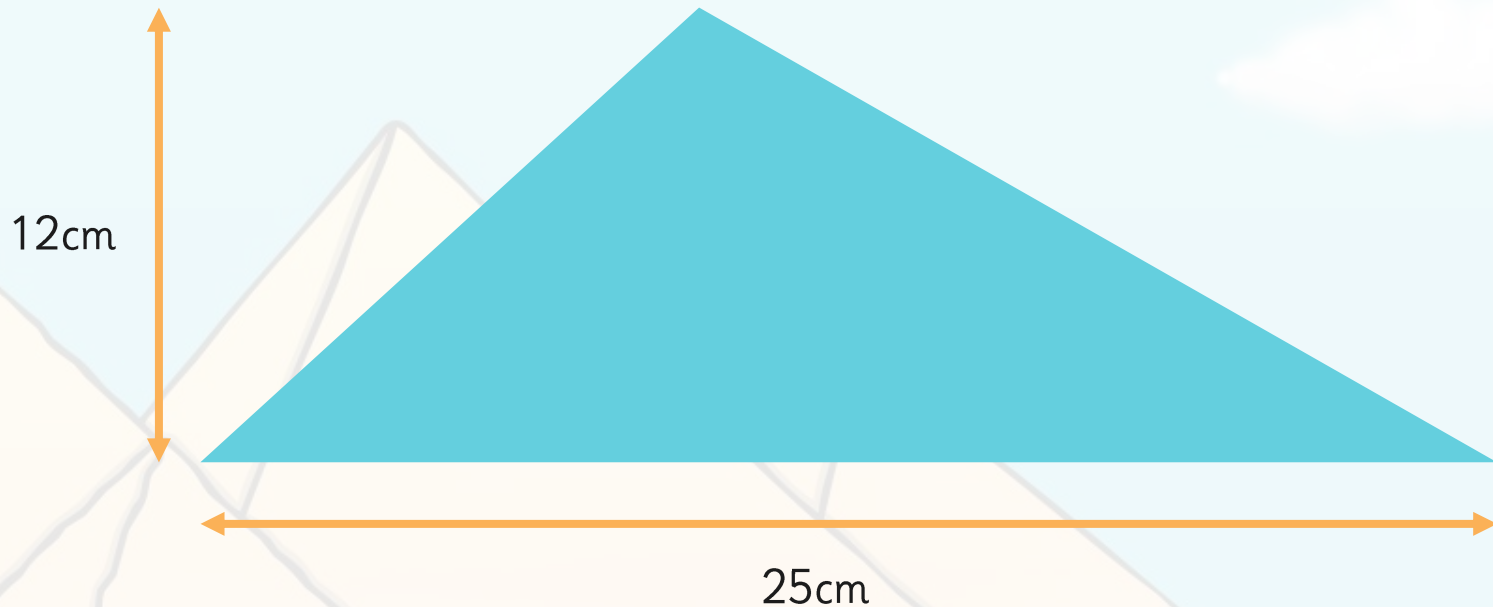
Calculate the area of this triangle.



$$\text{Area} = \frac{1}{2} \times 13\text{cm} \times 11\text{cm} = 71.5\text{cm}^2$$

Calculate

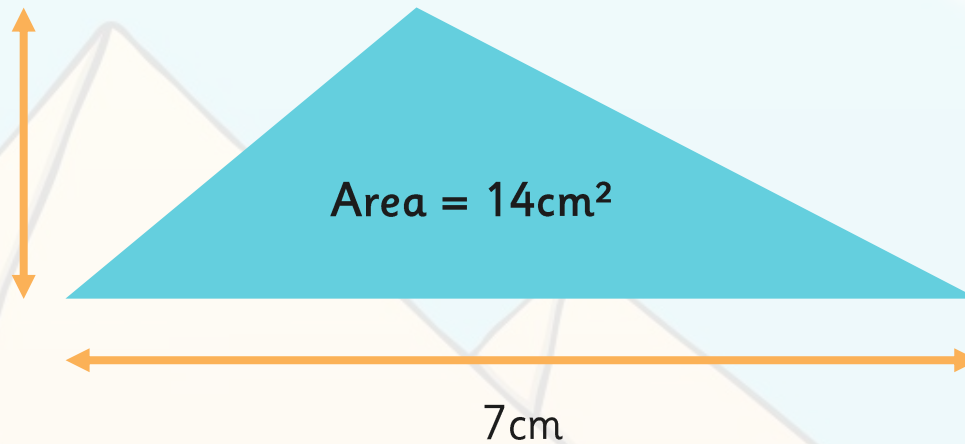
Calculate the area of this triangle.



$$\text{Area} = \frac{1}{2} \times 25\text{cm} \times 12\text{cm} = 150\text{cm}^2$$

Calculate

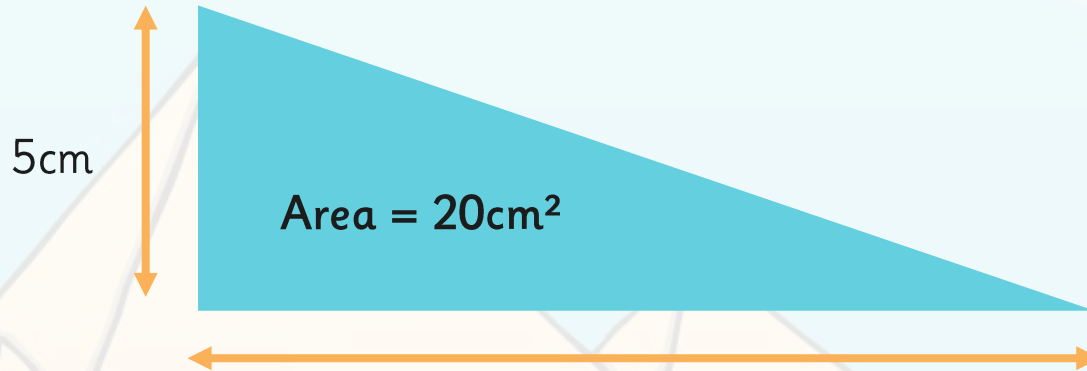
Calculate the **height** of this triangle.



$$\text{Height} = 2 \times \frac{14}{7} = 4\text{cm}$$

Calculate

Calculate the **base** of this triangle.



$$\text{Base} = 2 \times \frac{20}{5} = 8\text{cm}$$

Calculate

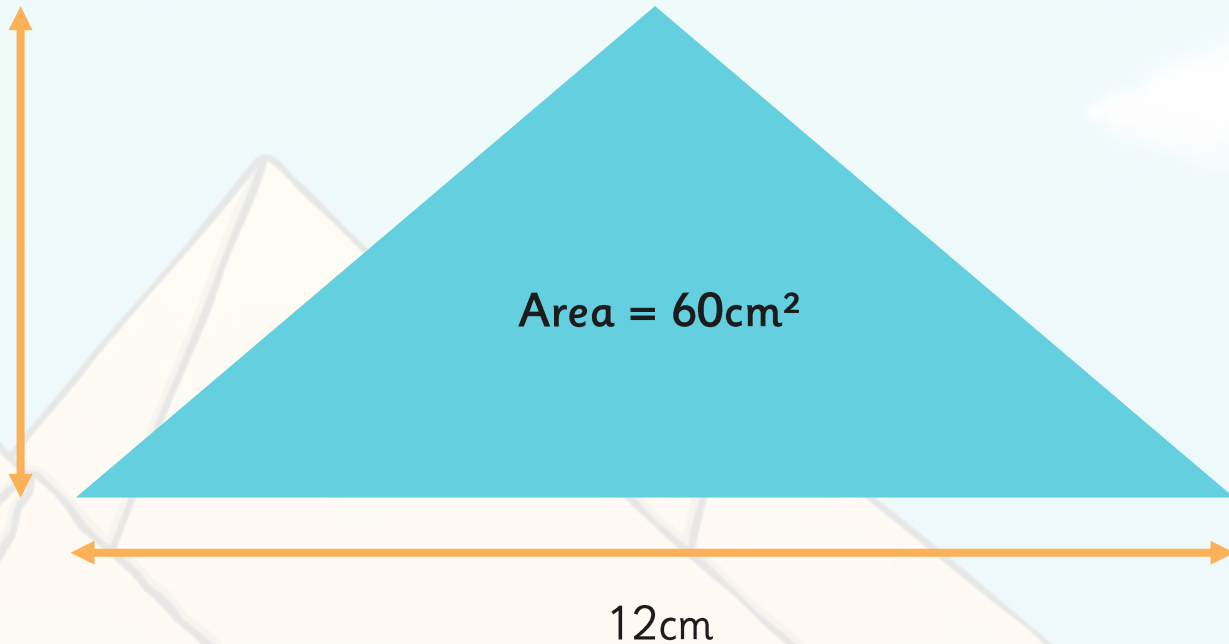
Calculate the **height** of this triangle.



$$\text{Height} = 2 \times \frac{27}{9} = 6\text{cm}$$

Calculate

Calculate the **height** of this triangle.



$$\text{Height} = 2 \times \frac{60}{12} = 10\text{cm}$$

Calculate

Calculate the **base** of this triangle.



$$\text{Base} = 2 \times \frac{52.5}{7} = 15\text{cm}$$

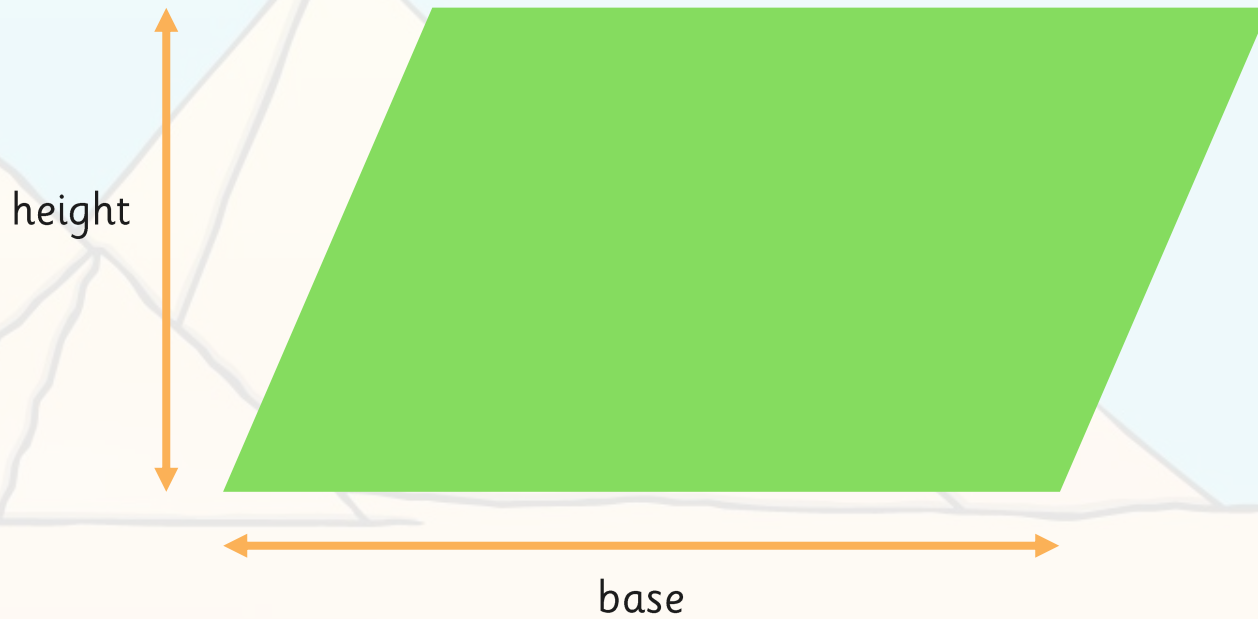
The Area of a Parallelogram

The area of a parallelogram is based upon the area of a rectangle that can be made by cutting off one end and moving it to make the rectangle.



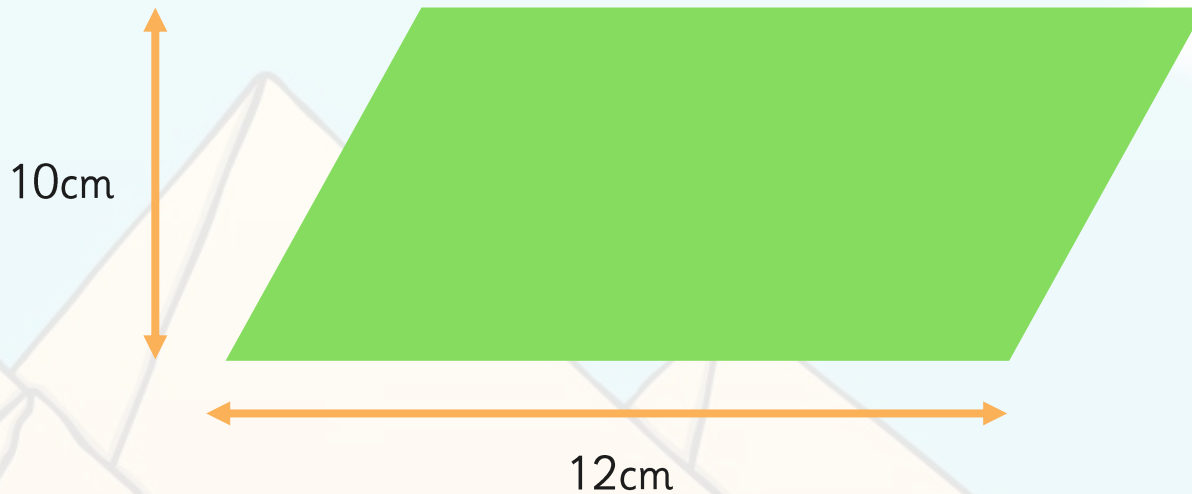
Calculate the Area of a Parallelogram

Area of a parallelogram = the area of the rectangle
= base x height



Calculate

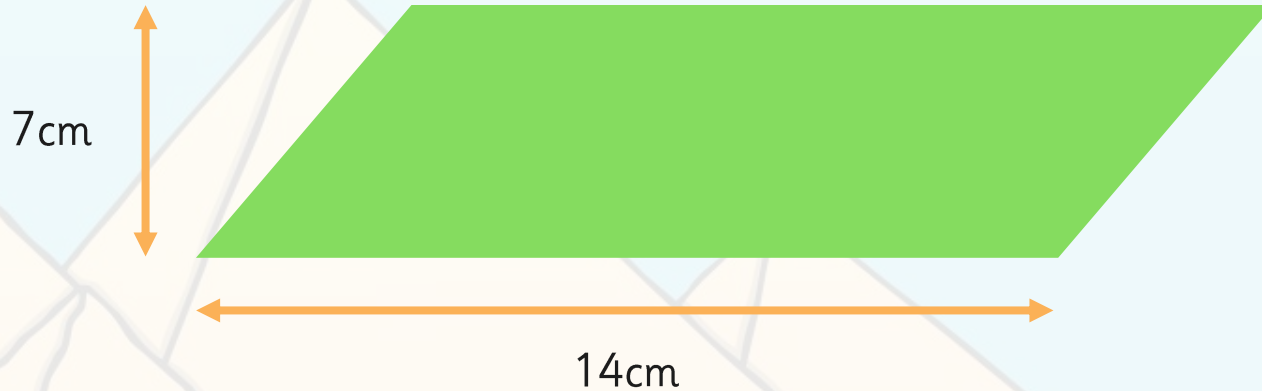
Calculate the area of this parallelogram.



$$\text{Area} = 12\text{cm} \times 10\text{cm} = 120\text{cm}^2$$

Calculate

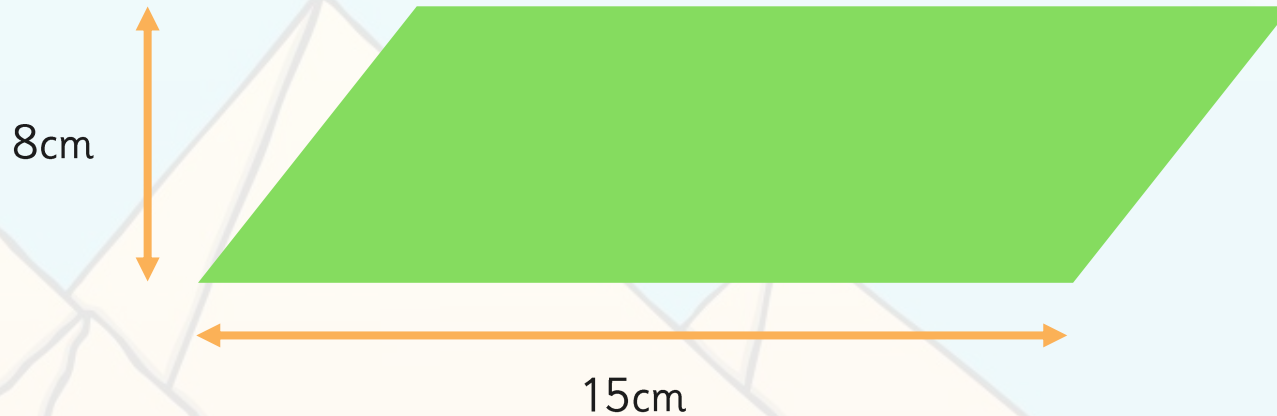
Calculate the area of this parallelogram.



$$\text{Area} = 14\text{cm} \times 7\text{cm} = 98\text{cm}^2$$

Calculate

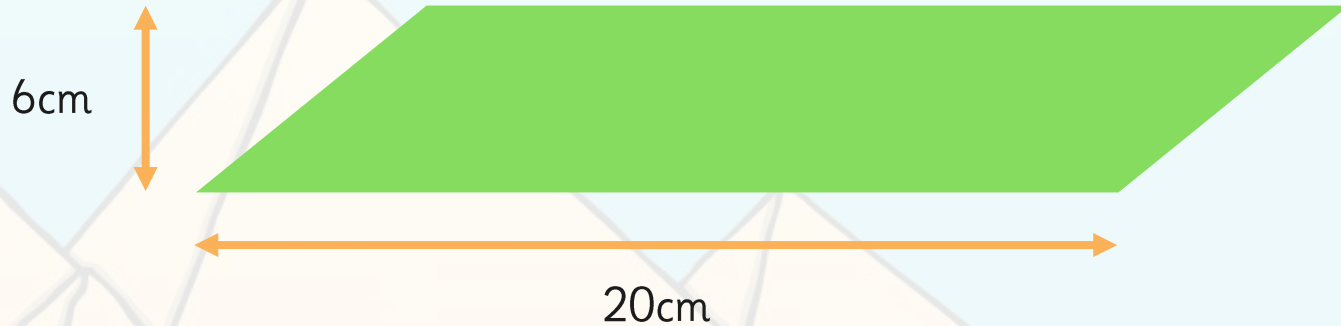
Calculate the area of this parallelogram.



$$\text{Area} = 15\text{cm} \times 8\text{cm} = 120\text{cm}^2$$

Calculate

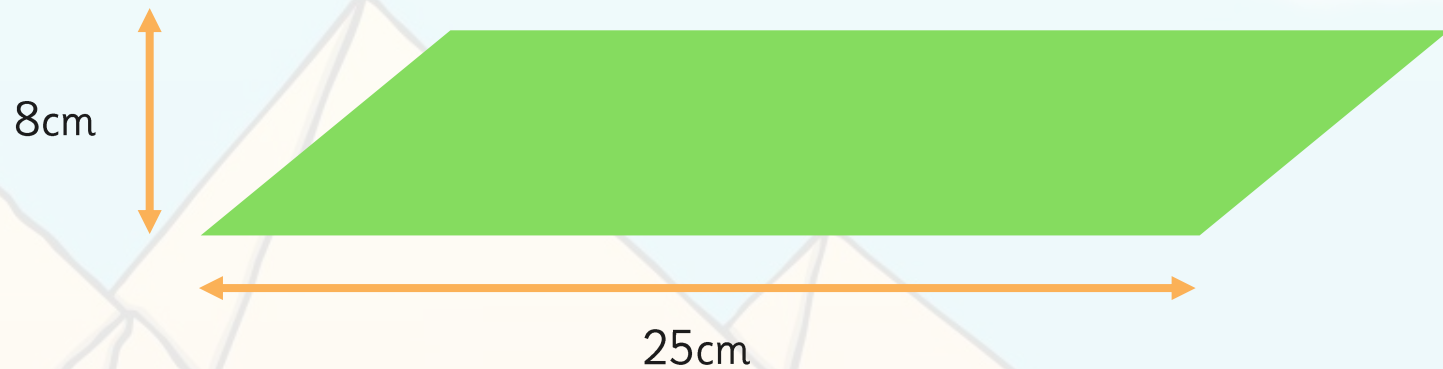
Calculate the area of this parallelogram.



$$\text{Area} = 20\text{cm} \times 6\text{cm} = 120\text{cm}^2$$

Calculate

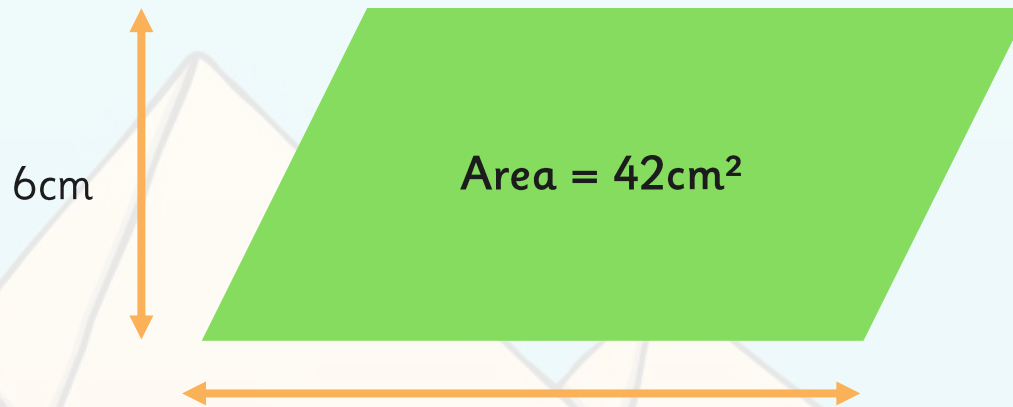
Calculate the area of this parallelogram.



$$\text{Area} = 25\text{cm} \times 8\text{cm} = 200\text{cm}^2$$

Calculate

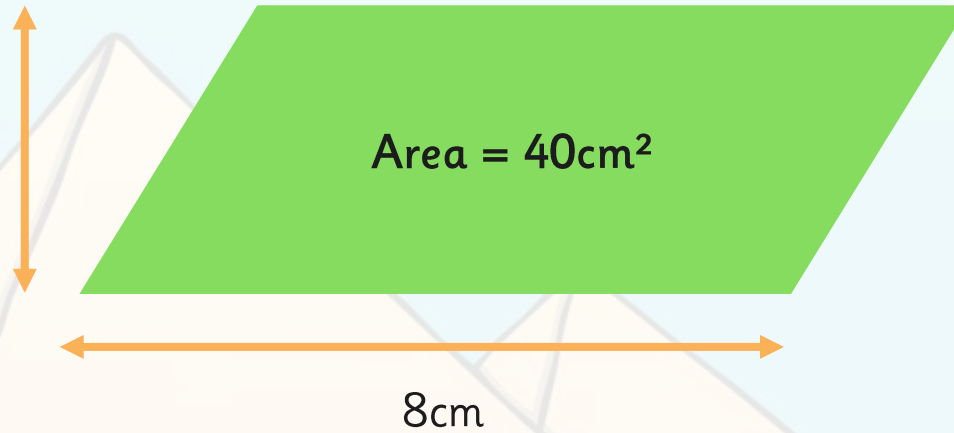
Calculate the **base** of this parallelogram.



$$\text{Base} = \frac{42}{6} = 7\text{cm}$$

Calculate

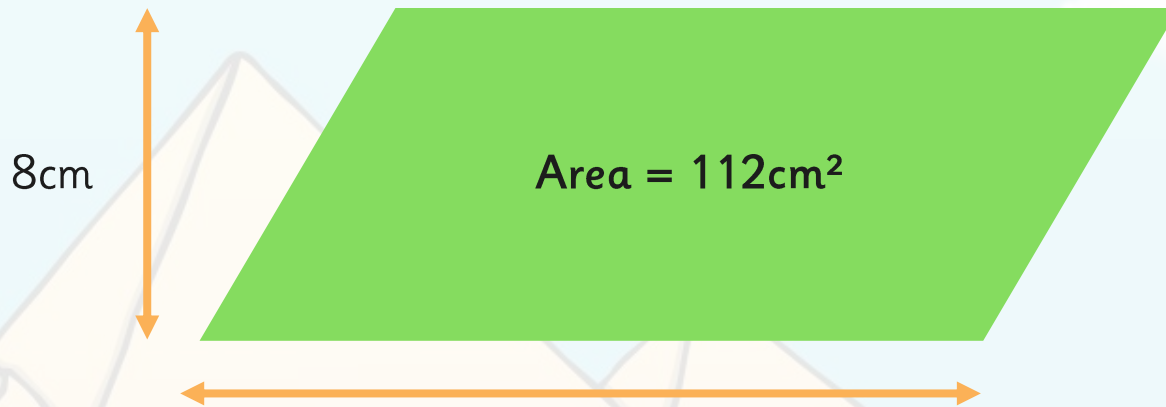
Calculate the **height** of this parallelogram.



$$\text{Height} = \frac{40}{8} = 5\text{cm}$$

Calculate

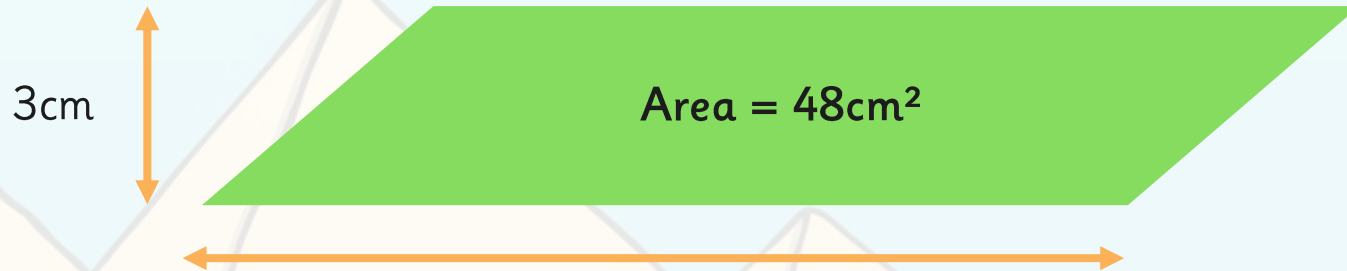
Calculate the **base** of this parallelogram.



$$\text{Base} = \frac{112}{8} = 14\text{cm}$$

Calculate

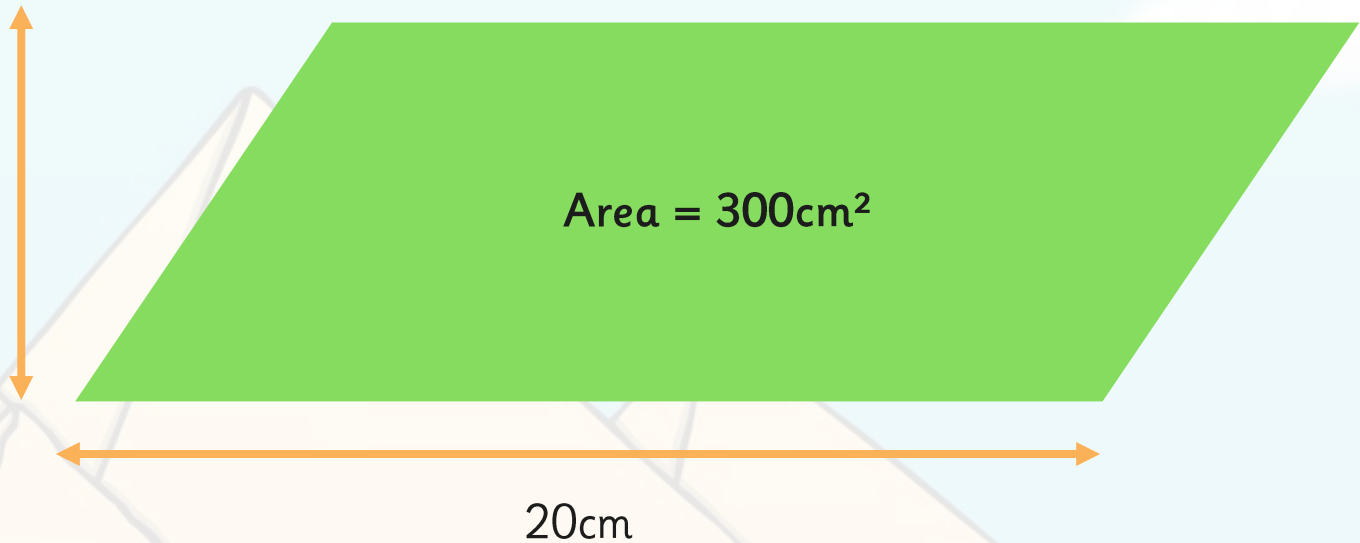
Calculate the **base** of this parallelogram.



$$\text{Base} = \frac{48}{3} = 16\text{cm}$$

Calculate

Calculate the **height** of this parallelogram.



$$\text{Height} = \frac{300}{20} = 15\text{cm}$$

Aim

- I can calculate the area of a triangle and a parallelogram.

Success Criteria

- I know the formula for calculating the area of triangles and parallelograms.
- I can understand why these formulas give the area of triangles and parallelograms.
- I can use the formulae to calculate the area of triangles and parallelograms.

