Diving into Mastery

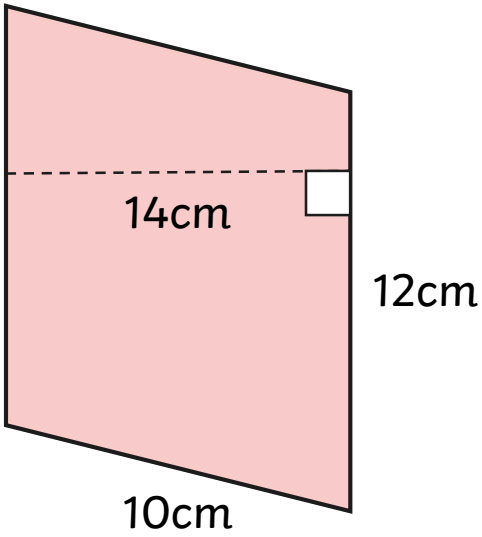
Area of a Parallelogram

Area of a Parallelogram

Diving

Use the formula **base × height** to calculate the area of a parallelogram.

Find the area of this parallelogram.

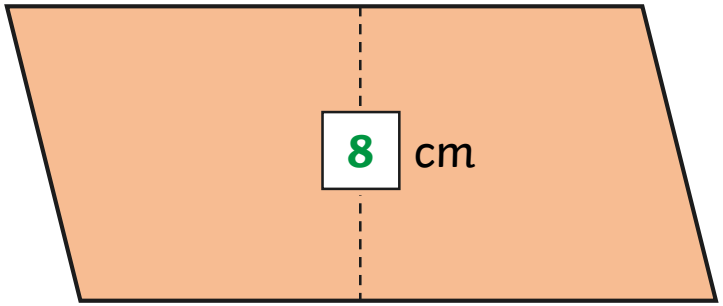


12cm × 14cm = 168cm²

Area = 168cm²

What is the missing measurement in this parallelogram?

Area = 120cm²



120cm² ÷ 15cm = 8cm

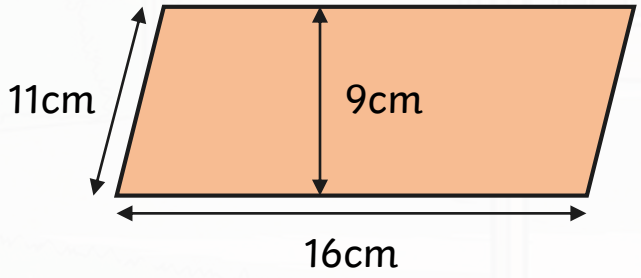
Area of a Parallelogram

Deeper

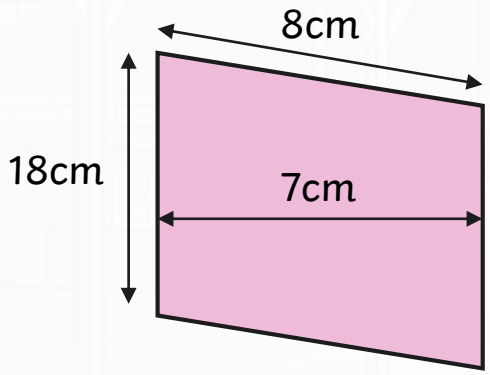
Use the formula **base × height** to calculate the area of a parallelogram.

Jack has calculated that both of these parallelograms have an area of 144cm^2.

Do you agree with Jack? Explain why.



Jack has correctly calculated the area of this parallelogram. 16cm × 9cm = 144cm^2



However, to calculate the area of 144cm^2 on this parallelogram, Jack has incorrectly multiplied the base by the 8cm side length. He should have used the perpendicular height of 7cm. The correct calculation is: 18cm × 7cm = 126cm^2

Area of a Parallelogram

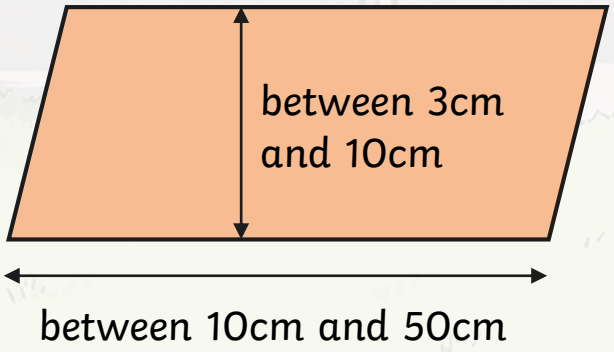
Deepest

Use the formula **base × height** to calculate the area of a parallelogram.

I am thinking of a parallelogram with side lengths that are whole numbers.

Give the dimensions of all the possible parallelograms I could be thinking of.

It has an area of 96cm^2.
Its base measures between 10cm and 50cm.
Its height measures between 3cm and 10cm.



If the parallelogram has an area of 96cm^2, then it could have the following dimensions:

base = b and height = h

b = 3cm and h = 32cm

b = 4cm and h = 24cm

b = 6cm and h = 16cm

b = 8cm and h = 12cm