

**KS2
SATS
MATHS**

REVISION WORKBOOK

MATHEMATICS

**YEAR 6
AGE 10–11**

HIGHER STANDARD

Achieve



 **hachette**
LEARNING

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Area of parallelograms and triangles

To achieve the higher standard, you need to:

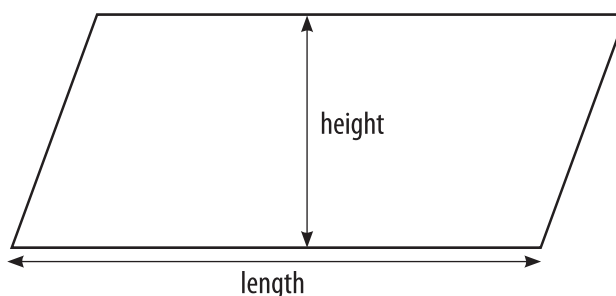
- ★ calculate the area of parallelograms and triangles.



What you need to know

- The formula for the area of a rectangle is the same as the area of a **parallelogram**, which is length $\times$ width (or height).

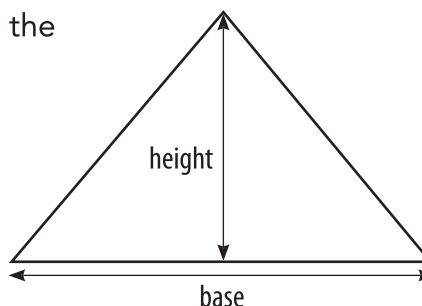
Area of a parallelogram =
length $\times$ height



- The formula for the area of a **triangle** is the height $\times$ the base divided by 2

$$A = \frac{bh}{2}$$

Area of a triangle = base $\times$ height $\div$ 2



Let's practise



What is the area of a parallelogram that has a length of 40 cm and a height of 25 cm? cm²



1

Read the question and read it again.
What is it asking?

2

Recall the formula for the area of a parallelogram.

3

Calculate the area.

4

What is your answer?

5

Check your answer.

Calculate the area of the shape.

Area of a parallelogram = length $\times$ height
The parallelogram is 40 cm long and 25 cm high.

$$40 \times 25 = 1,000$$

$$1,000 \text{ cm}^2$$

$$1,000 \div 25 = 40$$

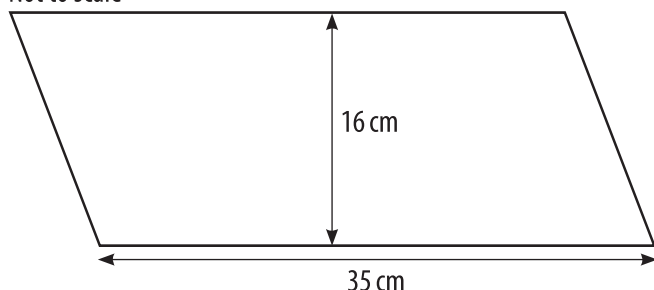


Try this

Calculate the areas of these shapes.

1

Not to scale

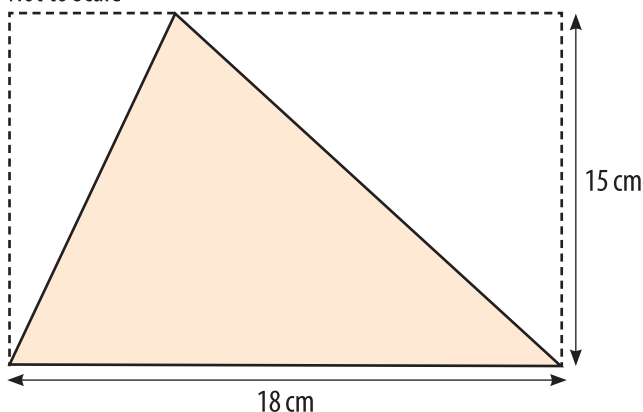


A parallelogram 35 cm long and 16 cm high.

cm^2

2

Not to scale

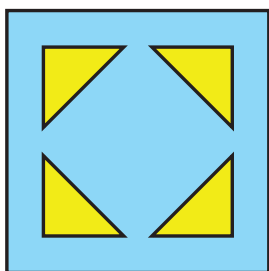


A triangle with a base 18 cm long and a height of 15 cm.

cm^2

3 Here is a rectangular flag.

There are four identical triangles drawn on the flag.



The whole flag is 5 metres long and 3 metres high.

Each triangle has a base of 2 metres and a height of 1 metre.

What is the area of the blue part of the flag?

m^2



Top tips

- You don't need to write the units during your calculation, but make sure you include them in your answer if they are not given.
- The diagonal of a parallelogram creates two identical triangles. The area of each triangle is half the area of the parallelogram.

Pie charts

To achieve the higher standard, you need to:

- ★ interpret and construct **pie charts** ★ use pie charts to solve problems.



What you need to know

- A **pie chart** shows the proportion of each category of data. Pie charts are good for showing data as **percentages** or fractions of the whole.
- The angle at the centre of the pie chart is 360° .

Let's practise



Kamal conducts a survey of 120 pupils to find out how they spend their pocket money.

This table shows the data Kamal collected.

Draw a pie chart for this data.

What they spend their money on	Number of pupils
hobbies	45
clothes	35
music	40



1

Read the question and read it again. What is it asking?

Draw a pie chart for the data in the table.

2

Find the total number of pupils. Then divide 360° by the total number of pupils to find out what angle to use to represent 1 pupil.

$$45 + 35 + 40 = 120$$

$$360^\circ \div 120 = 3^\circ$$

3

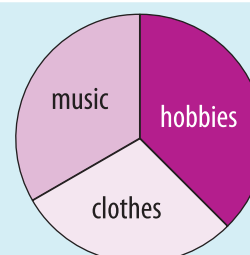
Multiply each option by this angle (3°) to work out the size of each slice of the pie chart.

What they spend their money on	Number of pupils	Angle for the slice
hobbies	45	$45 \times 3 = 135^\circ$
clothes	35	$35 \times 3 = 105^\circ$
music	40	$40 \times 3 = 120^\circ$

4

Draw a circle, and use a protractor to mark off each slice. Label each slice.

What pupils spend their money on



5

Check your answer.

Try this

- 1 Another 60 children are added to the survey. What size angle will be needed to represent one pupil now? $^\circ$

Top tip

- Make sure all the slices add up to 360 degrees.