

On this page you will learn:

- to recognise a negative number output.

Example $5 - 8$

Press $\rightarrow -3$

- to key in and interpret money calculations.

Example $\pounds 3.12 \times 5$

Press $\rightarrow 15.6$ Answer = $\pounds 15.60$

M

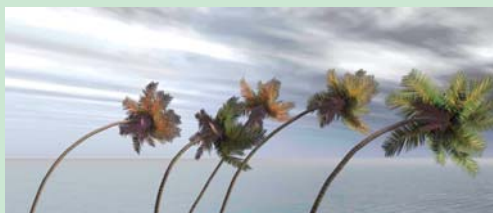
Use a calculator to work out the problems and interpret the display.

- | | |
|--------------|-------------------------------|
| ① $6 - 11$ | ⑥ $5 - 26$ |
| ② $59 - 17$ | ⑦ $91 - 30$ |
| ③ $4 - 19$ | ⑧ $10 - 32$ |
| ④ $107 - 23$ | ⑨ $\pounds 2.60 + 84\text{p}$ |
| ⑤ $3 - 16$ | ⑩ $\pounds 3.90 + 67\text{p}$ |

Now do these.

- | | |
|----------------------------------|---------------------------------|
| ⑪ $\pounds 8.30 - 65\text{p}$ | ⑯ $\pounds 9.17 - \pounds 2.77$ |
| ⑫ $\pounds 6.07 - 49\text{p}$ | ⑰ $89 + (19 \times 7)$ |
| ⑬ $\pounds 2.52 + \pounds 3.78$ | ⑱ $9 \times (93 - 46)$ |
| ⑭ $\pounds 12.64 - \pounds 1.94$ | ⑲ $5 \times (282 \div 6)$ |
| ⑮ $\pounds 4.63 + \pounds 2.87$ | ⑳ $4 \times (333 \div 9)$ |

- ⑳ There are 926 palm trees on an island. 53 are blown down in a hurricane. How many trees are left standing?



E

Copy and complete.

- ① $86 + \square = 175$
- ② $\square + 59 = 243$
- ③ $165 + \square = 218$
- ④ $\square + 67 = 123$
- ⑤ $135 - \square = 57$
- ⑥ $\square - 86 = 161$
- ⑦ $253 - \square = 175$
- ⑧ $\square - 127 = 248$
- ⑨ $318 - \square = 149$
- ⑩ $\square + 137 = 283$
- ⑪ $712 - \square = 464$
- ⑫ $\square - 254 = 379$
- ⑬ Find pairs of consecutive numbers which add up to:

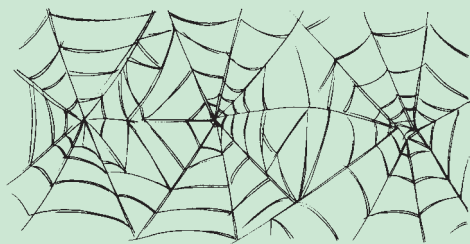
a) 65	c) 211
b) 143	d) 275.
- ⑭ The temperature is 14°C . It falls 36°C . What is the new temperature?

On these pages you will learn to use the vocabulary of multiplication.

M Part 1

Write a number sentence for each problem and work out the answer.

- ① Multiply 3 by 8.
- ② What is 5 times 100?
- ③ What is 21 multiplied by 2?
- ④ Find 3 lots of 40.
- ⑤ Find the product of 7 and 3.
- ⑥ What is 9 times greater than 4?
- ⑦ Rosie has 6 pens. Luke has three times as many. How many pens does Luke have?
- ⑧ A tree is 8 times taller than a fence. The fence is 2m tall. How tall is the tree?
- ⑨ There are 6 eggs in a box. There are 5 boxes. How many eggs are there?
- ⑩ There are 12 cubes in a block. There are 3 blocks. How many cubes are there?
- ⑪ There are 9 spiders in a shed and each spider caught 8 flies. How many flies were caught altogether?



Part 2

Write a number sentence for each problem and work out the answer.

- ① Share 18 by 2.
- ② Divide 70 by 10.
- ③ What is 45 divided by 5?
- ④ How many 2s make 14?
- ⑤ Share 20 by 5.
- ⑥ Divide 20 by 2.
- ⑦ What is 50 divided by 10?
- ⑧ How many 5s make 35?
- ⑨ Five children share 40 sweets equally between them. How many sweets does each child have?
- ⑩ There are 30 children in a class. Half the children have a skateboard. How many children do not have a skateboard?



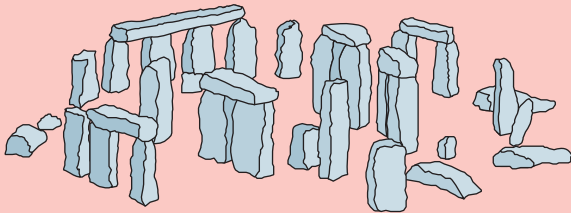
- ⑪ Six people win a prize of £540 between them. How much does each person get?

E

- 1 Look at the numbers in the box.

3	8	15	20	24
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- a What is the smallest number times the largest number?
- b Multiply the middle number by the second largest.
- c What is the second smallest number multiplied by itself?
- d Which number is five times greater than the smallest number?
- e Which number is three lots of the second smallest number?
- f The product of two numbers in the box is equal to another number in the box. Find the three numbers.
- g Ten different products can be made using pairs of the five numbers. Can you find them all?
- 2 A model of Stonehenge contains 36 rocks. How many rocks are there in 8 models?



- 3 A bus has 42 seats. How many passengers can be carried by a fleet of 7 buses?
- 4 There are 80 tea bags per packet of tea. How many tea bags are there altogether in nine packets?

Write a number sentence for each problem and work out the answer.

- 5 How many teams of 4 can be made from 32 children?
- 6 90 cm of string is cut into 3 equal lengths. How long is each length?
- 7 5 people win a competition. They share the £1000 prize between them. How much should each person get?
- 8 There were 24 boats in a race. 1 in every 3 of the boats sank. How many boats sank?



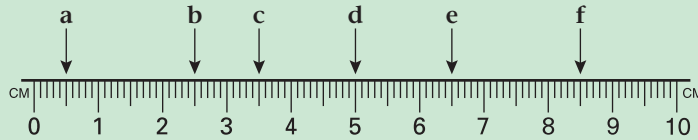
- 9 There are 24 children in a class.
- a) 1 in every 2 children is a boy. How many boys are there?
- b) 1 in every 3 has fair hair. How many children have fair hair?
- c) 1 in every 4 has green eyes. How many children have green eyes?
- 10 Five people can travel in one car and there are altogether 80 people to transport. How many cars are needed?

On this page you will learn to use a ruler to measure length.

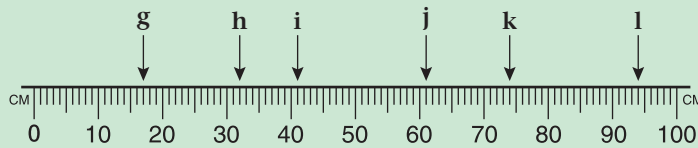
M

Read the measurements shown on each ruler:

①



②



Measure these lines.

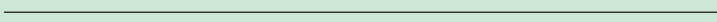
③



④



⑤



⑥



⑦



⑨



⑧

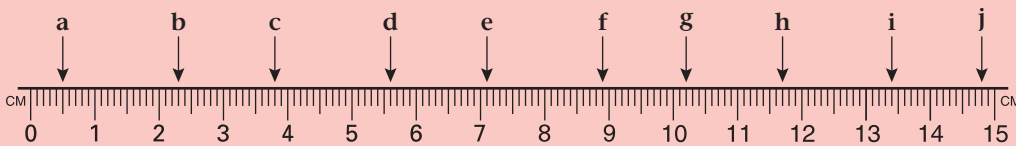


⑩



E

① Read the measurements shown to the nearest tenth of a centimetre.



Measure these lines to the nearest tenth of a centimetre.

②



③

④



⑤



⑥



On this page you will learn to use the relationship between metric units of length and to suggest suitable units to measure lengths.

M

Make 1 metre.

- ① $35\text{ cm} + \square$
- ② $75\text{ cm} + \square$
- ③ $\square + 15\text{ cm}$
- ④ $\square + 55\text{ cm}$

Make 1 kilometre.

- ⑤ $200\text{ m} + \square$
- ⑥ $600\text{ m} + \square$
- ⑦ $\square + 300\text{ m}$
- ⑧ $\square + 900\text{ m}$

Suggest a suitable metric unit to measure the length of:

- ⑨ a shoe



- ⑩ a classroom
- ⑪ a running track
- ⑫ a car journey
- ⑬ a banana
- ⑭ a house
- ⑮ Africa
- ⑯ the distance to the Moon.

E

Copy and complete by writing the missing number in the box.

- ① $\frac{1}{2}\text{ km} = \square\text{ m}$
- ② $3\text{ km} = \square\text{ m}$
- ③ $2\text{ km} = \square\text{ m}$
- ④ $5000\text{ m} = \square\text{ km}$
- ⑤ $3500\text{ m} = \square\text{ km}$
- ⑥ $4500\text{ m} = \square\text{ km}$
- ⑦ $\frac{1}{2}\text{ m} = \square\text{ cm}$
- ⑧ $2\text{ m} = \square\text{ cm}$
- ⑨ $6\text{ m} = \square\text{ cm}$
- ⑩ $400\text{ cm} = \square\text{ m}$
- ⑪ $350\text{ cm} = \square\text{ m}$
- ⑫ $800\text{ cm} = \square\text{ m}$

Suggest a suitable metric unit to measure these lengths.

- ⑬ a finger
- ⑭ the height of a tree
- ⑮ the length of England
- ⑯ a woodpecker



- ⑰ the length of the classroom
- ⑱ an apple pip

Think of two more things you would measure using:

- ⑲ centimetres
- ⑳ metres.

Choose the longest length from each pair.

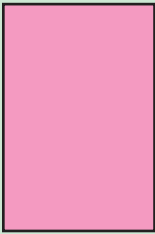
- ⑳ 500 m 5 km
- ㉑ 20 cm $\frac{1}{2}\text{ m}$
- ㉒ 40 cm $\frac{1}{4}\text{ m}$
- ㉓ $\frac{1}{2}\text{ km}$ 400 m
- ㉔ 200 cm 1 m
- ㉕ 400 m 4 km

On this page you will learn how to measure and calculate the perimeter of a rectangle and other shapes.

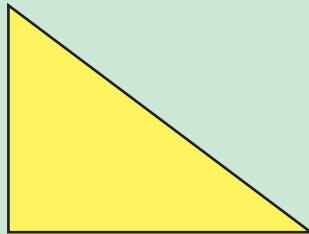
M

Measure each side of each shape and work out the perimeter.

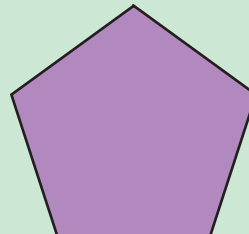
①



②



③



④ Work out the perimeters of these shapes.

a) square sides – 7 cm

c) equilateral triangle – sides 6 cm

b) rectangle sides – 8 cm 4 cm

d) regular pentagon – sides 4 cm

⑤ Use squared paper. Draw a square with an area of 25cm^2 . Work out the perimeter.

Work out the perimeters of these shapes.

⑥ rectangle – sides 5 cm 12 cm

⑧ square – sides 4.5 cm

⑦ regular hexagon – sides 7 cm

⑨ regular octagon – sides 9 cm

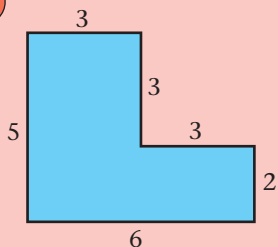
E

① Copy and complete this table showing the measurements of rectangles.

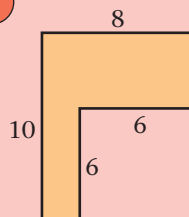
Length	8 cm	6 cm	7 cm		15 cm	
Width	4 cm			7 cm		5 cm
Perimeter		18 cm		34 cm	48 cm	

The lengths of these shapes are in cm. For each shape work out the perimeter.

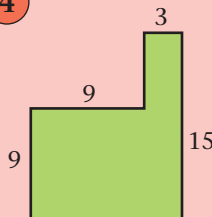
②



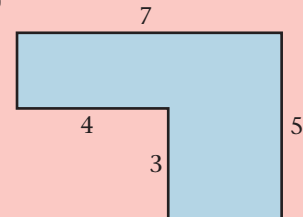
③



④



⑤

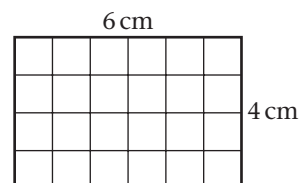


On this page you will learn to calculate the areas of shapes by counting squares.

The area of a shape is the amount of surface it covers.

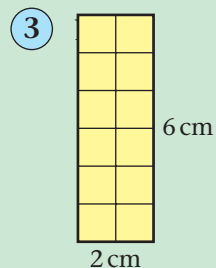
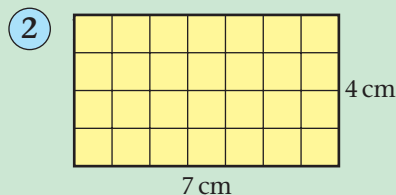
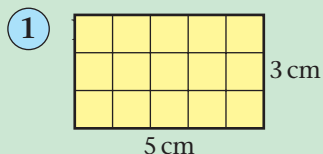
Area is measured in squares, usually square centimetres (cm²) or square metres (m²).

Example Area of rectangle = 24 cm²



M

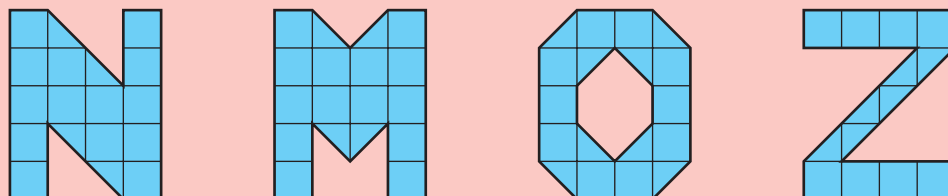
Find the area of each rectangle.



- ④ Draw a square with sides of 8 cm. Find its area.
- ⑤ Draw a square with an area of 16 cm². Work out the perimeter.
- ⑥ Draw a rectangle with an area of 15cm² and a length of 5 cm. Work out the perimeter.

E

- ① Work out the areas of these letters by counting squares and half squares.



- ② Make up your own drawings of letters using squared paper. You could draw your initials. Work out the areas.

On these pages you will learn how to measure and calculate the area and perimeter of a rectangle and other shapes.

The area of a shape is the amount of surface it covers.

It is measured in squares, usually square metres (m^2) or square centimetres (cm^2).

The perimeter of a shape is the distance around its edges.

It is a length and is measured in units of length such as metres or centimetres.

To understand the difference between area and perimeter think of a field.

The perimeter is the fence. The area is the field itself.

Example

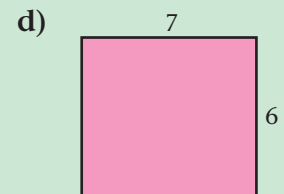
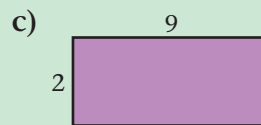
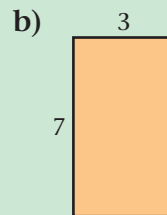
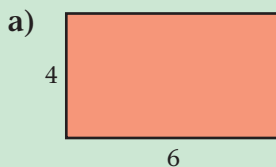


$$\begin{aligned} \text{Area} &= \text{length} \times \text{breadth} (l \times b) \\ &= (6 \times 4) \text{ cm}^2 = 24 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} \text{Perimeter} &= 6 + 4 + 6 + 4 \\ &= 20 \text{ cm} \end{aligned}$$

M

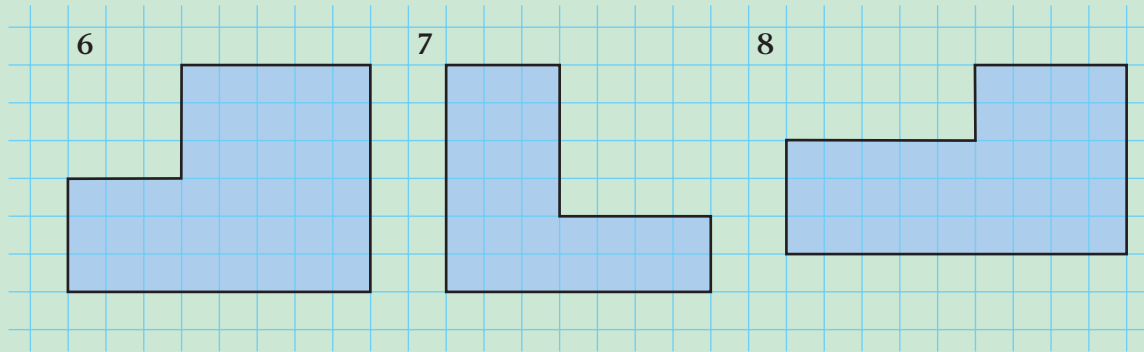
- ① Calculate the area of each rectangle. All lengths are in cm.



- ② Calculate the perimeter of each rectangle in Question ① above.
- ③ Use 1 cm^2 squared paper. Draw three different rectangles each with an area of 36 cm^2 . Work out the perimeters.
- ④ Use 1 cm^2 squared paper. Draw three different rectangles each with a perimeter of 36 cm . Work out the areas.
- ⑤ Copy and complete this table showing the measurements of rectangles.

Length	9 cm	8 cm	6 cm	12 cm	6 cm	8 cm
Breadth	7 cm	3 cm				
Perimeter					26 cm	34 cm
Area			12 cm^2	60 cm^2		

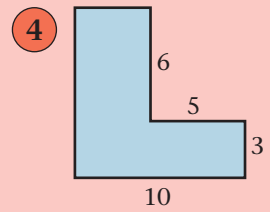
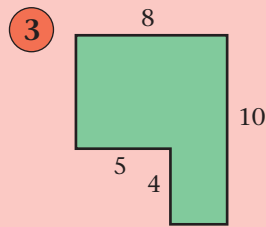
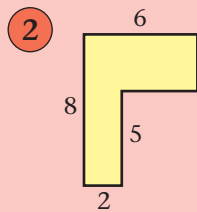
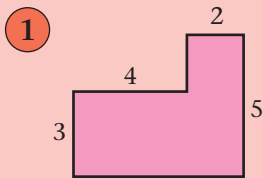
Find the areas of the following irregular shapes. Each square represents 1 cm^2 .



E

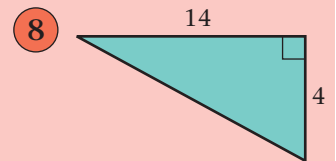
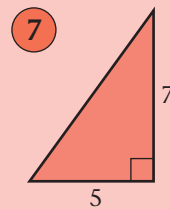
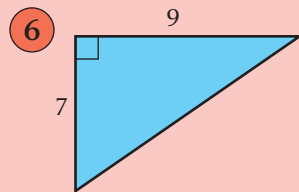
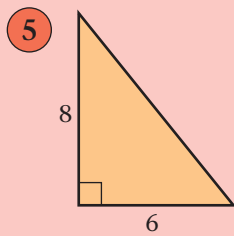
The lengths of these shapes are in cm. For each shape work out:

- a) the area b) the perimeter.

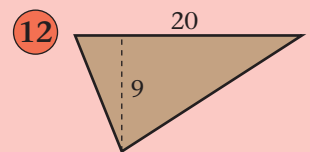
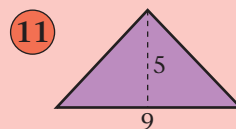
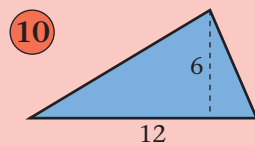
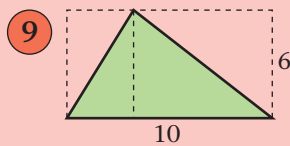


Use squared paper to draw the triangles.

Work out the area of each triangle

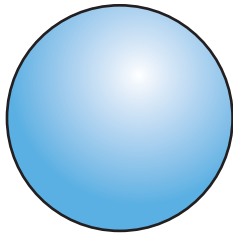


Work out the area of each triangle. All the lengths are in cm.

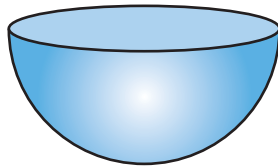


On these pages you will learn to name and classify 3-D shapes.

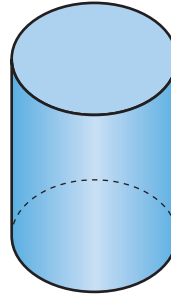
Some 3-D shapes with curved faces.



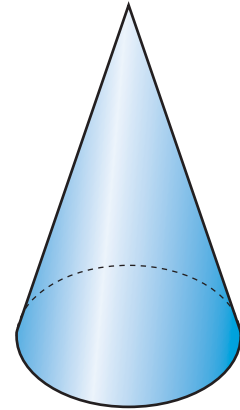
sphere



hemi-sphere

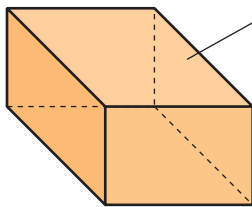


cylinder

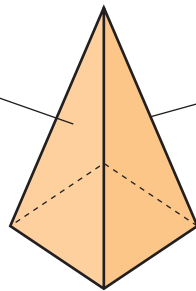


cone

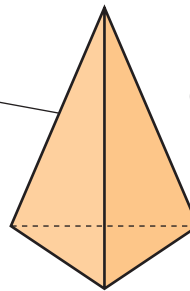
Some 3-D shapes with straight edges.



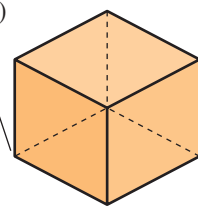
cuboid



square
based pyramid



triangular
based pyramid



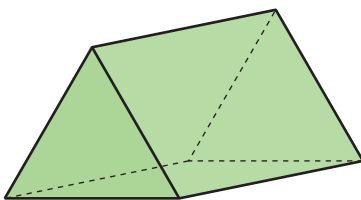
cube

faces

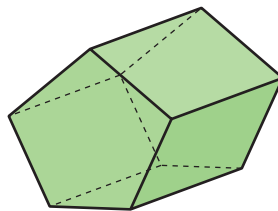
edges

vertices
(corners)

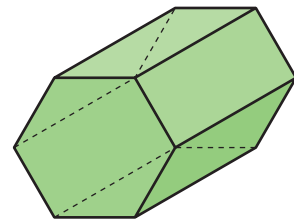
A prism is a 3-D shape with two identical end faces and the same cross section throughout its length.



triangular prism



pentagonal prism



hexagonal prism