



# Year 4 Maths Home Learning | Summer Term



W.C. 11<sup>th</sup> May 2020

<https://www.bbc.co.uk/bitesize/tags/z63tt39/year-4-and-p5-lessons/1>

## Maths

Use these worksheets to work from and not on. All you need is a piece of paper, pencil and a ruler.

After watching the videos and having a go at the practise activities, have a go at these activities. Depending on your confidence choose Mild, Medium or Spicy (you may wish to have a go at more



**Extensions** – You may wish to deepen your learning by looking at the Collins Worksheets provided by the BBC too.

## Monday

<https://www.bbc.co.uk/bitesize/tags/z63tt39/year-4-and-p5-lessons/1>

<https://whiterosemaths.com/homelearning/year-4/>

### Multiply and dividing problem solving

#### Mild

2a. Calculate the total number of legs.



\_\_\_ X \_\_\_ + \_\_\_ X \_\_\_ =

1a. Tilly is buying packs of cakes for her birthday. Complete the table to work out how many cakes she has.

| Cakes           | Contents                             | Total cakes   |
|-----------------|--------------------------------------|---------------|
| Cream Selection | 3 x 3 eclairs = 9<br>2 x 3 horns = 6 | 9 + 6<br>= 15 |
| Best Buns       | 4 x 2 muffins =<br>3 x 2 fairy =     |               |
| Do'Nut Doughnut | 2 x 4 iced =<br>5 x 4 jam =          |               |

Harry puts some groups of shapes together:



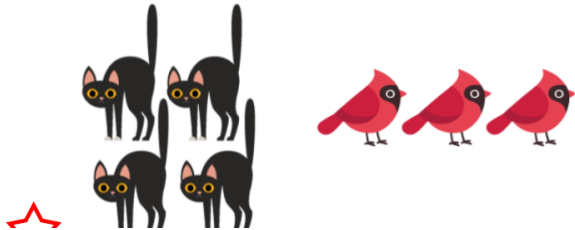
He says that he can represent the total number of vertices by using this number sentence:

$$4 \times 3 + 4 \times 5 = 32$$

How would you represent these shapes in the same way?



3a. Cats have 4 legs, birds have two. This diagram shows that the total number of legs is  $4 \times 3 + 3 \times 2 = 20$ . True or false?



4a. One box contains 3 teddies and 4 dolls.

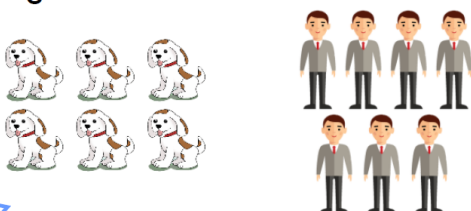


How many teddies will there be if there are 20 dolls? Circle the correct answer.

|    |    |    |
|----|----|----|
| 10 | 20 | 15 |
|----|----|----|

### Medium

7a. Dogs have 4 legs, humans have two. This diagram shows that the total number of legs is  $4 \times 6 + 7 \times 2 = 38$ . True or false?



You have only pentagons, squares and triangles.  
How many ways can you find to represent the number 22?

*Rather than use guesswork, is there a method you could use to explore all the possible answers?*

A canteen has 2 types of bread and a choice of 3 sandwich fillings.

| Bread | Fillings |
|-------|----------|
| white | cheese   |
| brown | tuna     |
|       | chicken  |

a) List the different sandwiches that can be made.

One has been done for you.

cheese on white

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b) Complete the multiplication to represent the number of different combinations of bread and filling.

$$\square \times \square = \square$$

Complete the sentence.

There are  $\square$  combinations.

c) How many combinations would there be if there were 4 choices of sandwich filling?

Mo visits the funfair.

He buys a ticket that allows him to choose 1 ride and 1 game at the fair.

| Rides      | Games              |
|------------|--------------------|
| Big dipper | Hook-a-duck        |
| Dodgems    | Basketball         |
| Carousel   | Coconut shy        |
|            | Lucky dip          |
|            | Test-your-strength |

a)

There are 8 different possible choices of rides and games.



Is Mo correct? \_\_\_\_\_

**Spicy**

Here are the activity choices available at Summer Camp.

| Sport    | Arts and crafts | Outward bound |
|----------|-----------------|---------------|
| football | painting        | wall climbing |
| tennis   | pottery         | kayaking      |
| golf     | mosaics         | abseiling     |
|          | origami         |               |

Each child is allowed to choose 3 activities per day:

1 sport, 1 arts and crafts and 1 outward bound.

a) How many activity combinations are there?

b) Due to a flooded pitch, football is cancelled.

How many combinations are now possible?

There are  combinations.

Tom and Esther are building a snowman.

They have a choice of 5 hats, 4 scarves and 2 pairs of gloves to dress their snowman.

How many different combinations are possible?

$$\square \times \square \times \square = \square$$

There are  combinations.

9a. Mrs Cooke is ordering food for school lunches. Complete the table to work out how much food she has.

| Order         | Contents            | Boxes | Total |
|---------------|---------------------|-------|-------|
| Billy's Bread | 8 white<br>7 brown  | 5     | 75    |
| Fred's Meats  | 6 beef<br>6 turkey  | 6     |       |
| Veggie Verde  | 12 mixed<br>3 beans | 4     |       |

Using the vertices of squares and triangles, how many ways can you balance the equation?

$$\begin{array}{ccccccc} \text{Octagon} & \text{Octagon} & \text{Octagon} & \text{Octagon} & \text{Circle} & \text{Triangle} & \text{Triangle} & \text{Triangle} & \text{Triangle} & = & \text{---} \end{array}$$

Spiders have 8 legs and ants have 6 legs.



There are 288 legs in a vegetable patch.

How many spiders and ants could there be?

## Tuesday

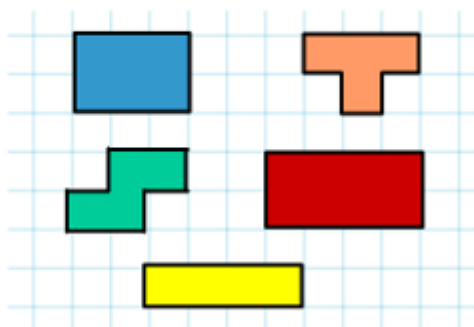
<https://www.bbc.co.uk/bitesize/tags/z63tt39/year-4-and-p5-lessons/1>

<https://whiterosemaths.com/homelearning/year-4/>

### ***Perimeter of a rectangle***

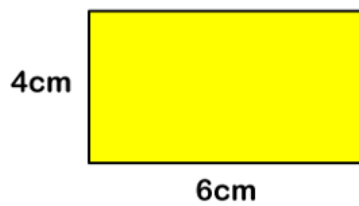
**Starter:**

Which one is different?



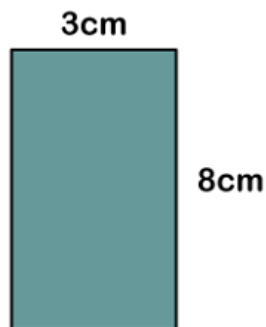
**Mild**

How would you calculate the perimeter of this rectangle?

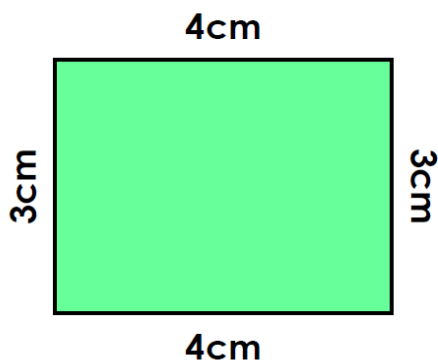


*What is the perimeter of a shape?  
If you had a ruler, how would you find the perimeter?  
Without a ruler, how can you calculate it?*

How would you calculate the perimeter of this rectangle?



Find the perimeter of the rectangle.

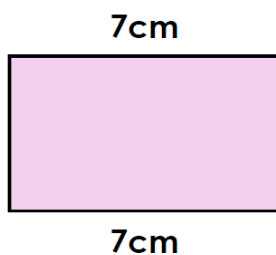


2a. Choose two measurements which will make a rectangle with a perimeter of 20cm.

A. 4cm B. 6cm C. 7cm D. 5cm

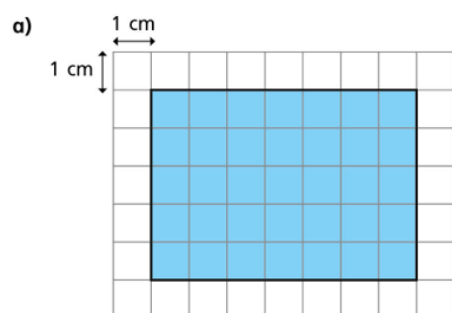
▲

3a. The perimeter of this rectangle is 22cm. Calculate the missing sides.

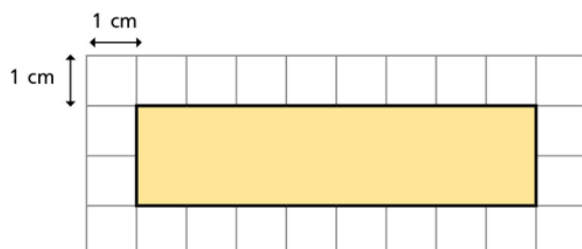


### Medium:

Work out the perimeter of each rectangle.



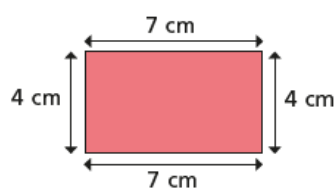
$$\square \text{ cm} + \square \text{ cm} + \square \text{ cm} + \square \text{ cm} = \square \text{ cm}$$



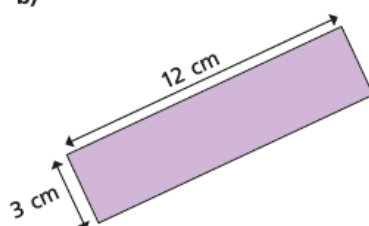
$$\square \text{ cm} + \square \text{ cm} + \square \text{ cm} + \square \text{ cm} = \square \text{ cm}$$

2 Work out the perimeter of the rectangles.

a)



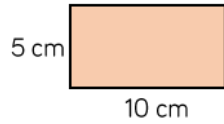

b)



Eva is finding the perimeter of the rectangle.



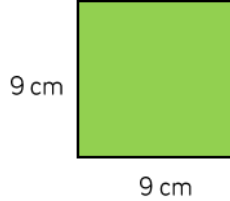
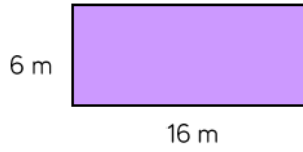
I added the length and width together and then multiplied by 2



$$5 \text{ cm} + 10 \text{ cm} = 15 \text{ cm}$$

$$15 \text{ cm} \times 2 = 30 \text{ cm}$$

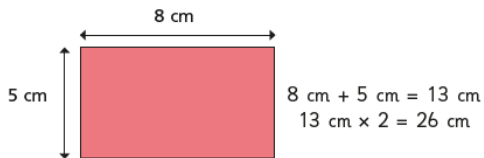
Use Eva's method to find the perimeter of the rectangles.



9

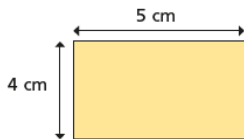
## Spicy

Tommy is working out the perimeter of some rectangles.



Use Tommy's method to find the perimeter of these rectangles.

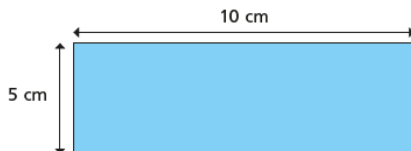
a)



$$\square \text{ cm} + \square \text{ cm} = \square \text{ cm}$$

$$\square \text{ cm} \times 2 = \square \text{ cm}$$

b)

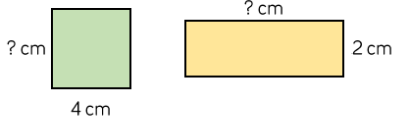


$$\square \text{ cm} + \square \text{ cm} = \square \text{ cm}$$

$$\square \text{ cm} \times 2 = \square \text{ cm}$$

The width of a rectangle is 2 metres less than the length.  
 The perimeter of the rectangle is between 20 m and 30 m.  
 What could the dimensions of the rectangle be?  
 Draw all the rectangles that fit these rules.  
 Use 1 cm = 1 m.

Each of the shapes have a perimeter of 16 cm.  
 Calculate the lengths of the missing sides.



### Always, Sometimes, Never

When all the sides of a rectangle are odd numbers, the perimeter is even.  
 Prove it.

Here is a square. Each of the sides is a whole number of metres.



Which of these lengths could be the perimeter of the shape?  
 24 m, 34 m, 44 m, 54 m, 64 m, 74 m

Why could the other values not be the perimeter?

## Wednesday

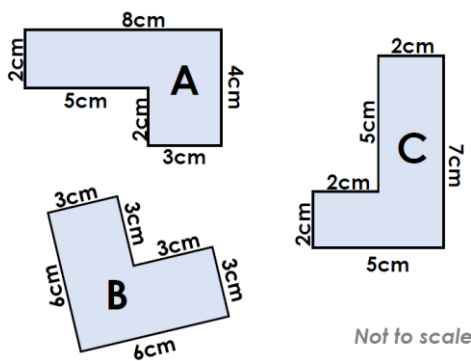
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<https://whiterosemaths.com/homelearning/year-4/>

### Perimeter of a rectilinear shape

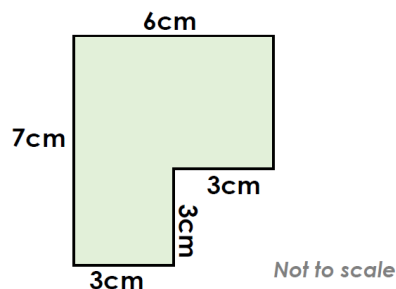
**Mild:**

1a. Patrick has drawn some shapes.



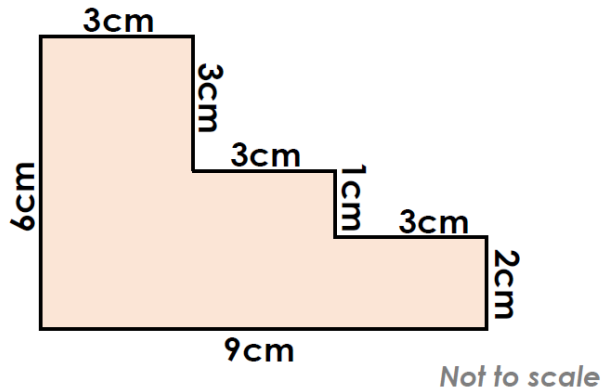
★ Which shape is the odd one out?

2a. Isabella has made a rectilinear shape with a perimeter of 26cm.



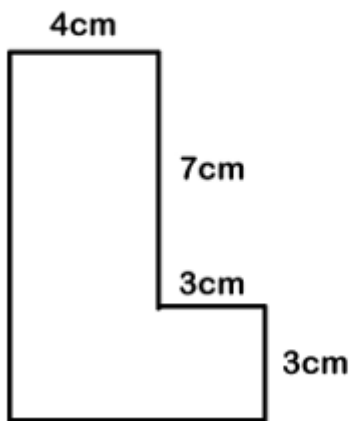
What is the missing measurement?

3a. True or false?



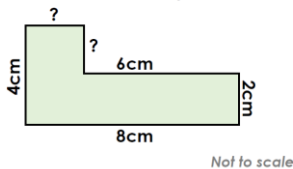
The shape has a perimeter of 30cm.  
Convince me.

Use a ruler to draw this shape and find its perimeter.  
What do you notice about the missing side lengths?



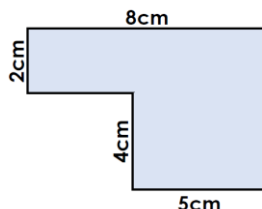
**Medium:**

5a. Noah has drawn a shape.

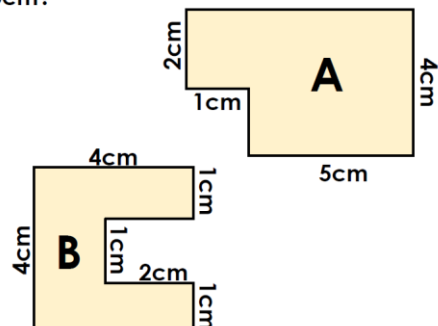


Find the missing measurements and calculate the perimeter.

6a. True or false? The perimeter of the shape is 18cm.

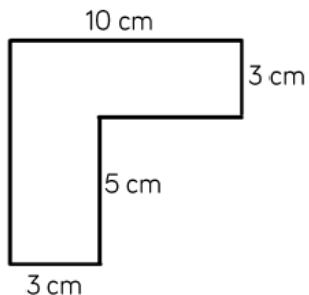
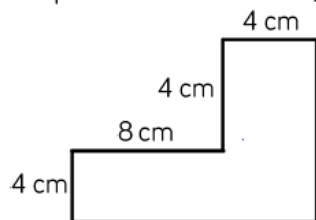


7a. Which shape has a perimeter of 20cm?

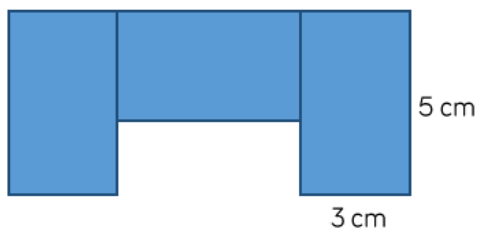


**8a. Draw a rectilinear shape with a perimeter of 18cm.**

Find the perimeter of the shapes.



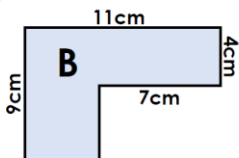
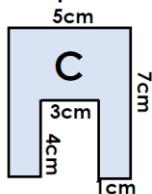
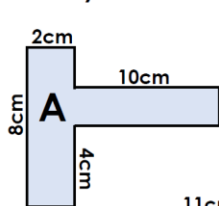
The shape is made from 3 identical rectangles.  
Calculate the perimeter of the shape.



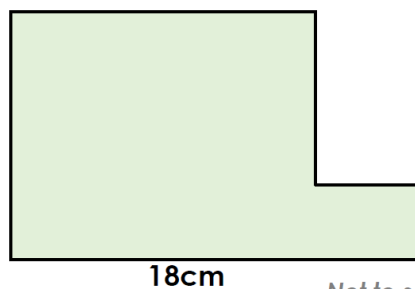
**Spicy:**

8a. Charlie has made a rectilinear shape with a perimeter of 50cm.

7a. Freya has drawn some shapes.



*Not to scale*

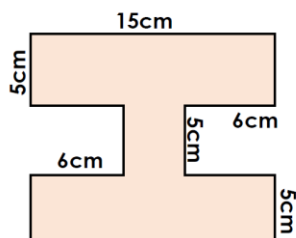


*Not to scale*

1. Which shape is the odd one out?

What are the possible missing measurements?

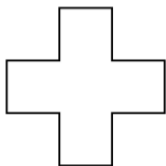
9a. True or false?



*Not to scale*

The shape has a perimeter of 100 cm.  
Convince me.

Here is a rectilinear shape. All the sides are the same length and are a whole number of centimetres.

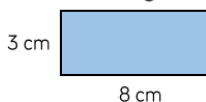


Which of these lengths could be the perimeter of the shape?

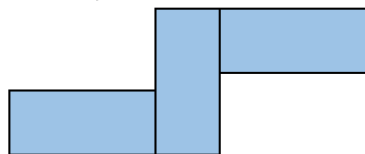
48 cm, 36 cm, 80 cm, 120 cm, 66 cm

Can you think of any other answers which could be correct?

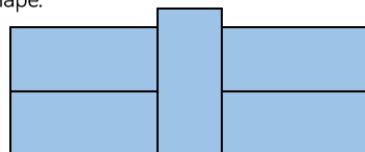
Amir has some rectangles all the same size.



He makes this shape using his rectangles. What is the perimeter?



He makes another shape using the same rectangles. Calculate the perimeter of this shape.



**Thursday**

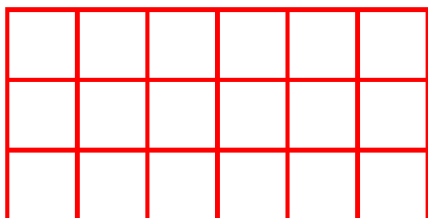
<https://www.bbc.co.uk/bitesize/tags/z63tt39/year-4-and-p5-lessons/1>

<https://whiterosemaths.com/homelearning/year-4/>

## Area - Counting Squares

### Mild

1a. Each square is  $1\text{cm}^2$ . Circle the correct area for the shape below.

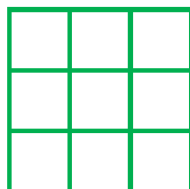


$16\text{cm}^2$

$18\text{cm}^2$

$20\text{cm}^2$

2a. Match the shape to the correct number sentences.  $\square = 1\text{cm}^2$



A.

$9\text{cm}^2$

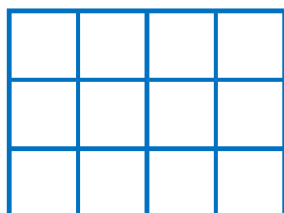
$3 \times 3 = 9\text{cm}^2$

B.

$16\text{cm}^2$

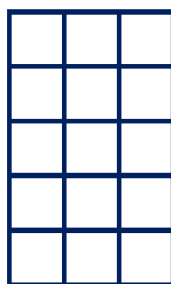
$4 \times 4 = 16\text{cm}^2$

3a. Each square is  $1\text{cm}^2$ . Work out the area of this shape.



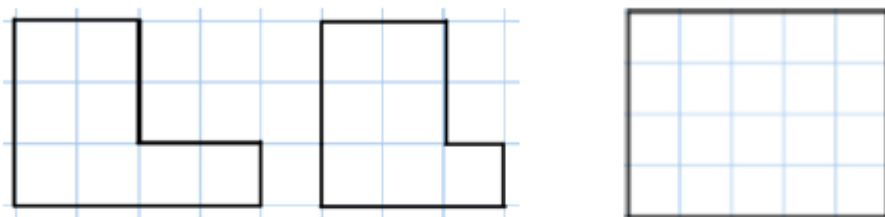
$\text{cm}^2$

4a. Each square is  $1\text{cm}^2$ . Is the statement below true or false?



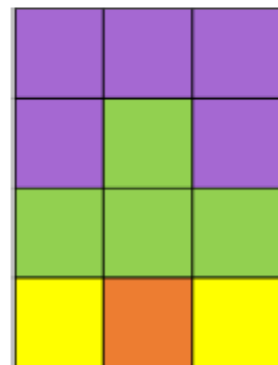
### Medium

Complete the sentences for each shape.



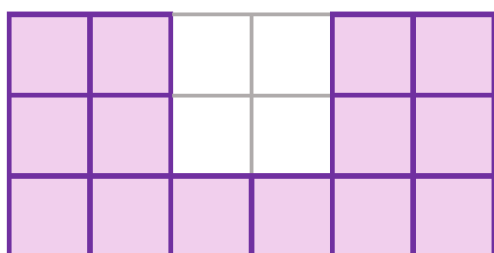
The area of the shape is \_\_\_\_ squares.

Here is a patchwork quilt.  
It is made from different coloured squares.  
Find the area of each colour.

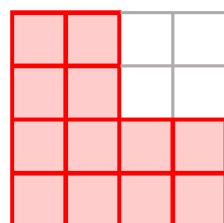


Purple = \_\_\_\_ squares      Green = \_\_\_\_ squares  
Yellow = \_\_\_\_ squares      Orange = \_\_\_\_ squares

5a. Each square is  $1\text{cm}^2$ . Circle the correct area for the shape below.



6a. Match the shape to the correct number sentences.  $\square = 1\text{cm}^2$



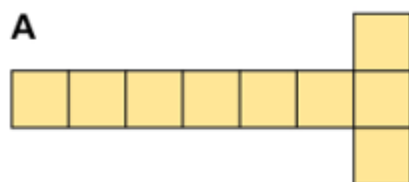
A.  $12\text{cm}^2$   
 $4 \times 4 - 4 = 12\text{cm}^2$

B.  $16\text{cm}^2$   
 $4 \times 4 = 16\text{cm}^2$

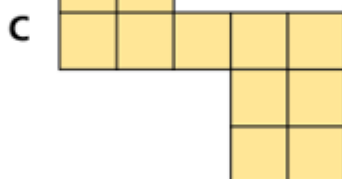
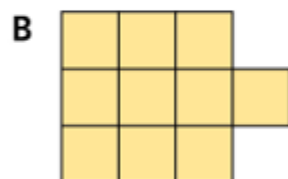


$12\text{cm}^2$        $14\text{cm}^2$        $18\text{cm}^2$

Count the squares in each shape to find the area.



The area is  $\square$  squares.

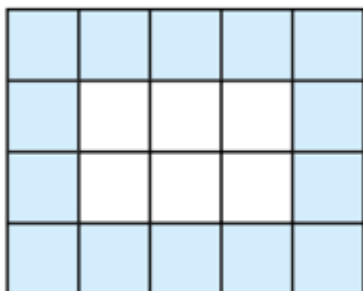


The area is  $\square$  squares.      The area is  $\square$  squares.

Which shape has the greatest area? \_\_\_\_\_

## Spicy

What is the area of the shaded part of the shape?



The area is  squares.

Here is a kitchen tile.



a) What area of the tile is blue?

squares

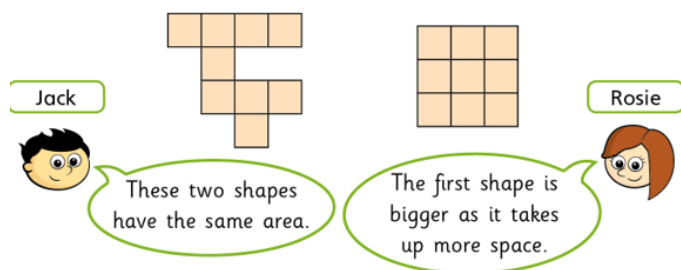
b) What area of the tile is white?

squares

c) What is the total area of the tile?

squares

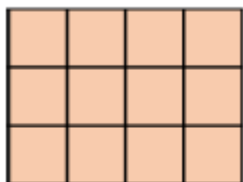
These two shapes are made up of squares of the same size.



Who is correct? \_\_\_\_\_

Explain how you know.

Jack uses his times-tables to count the squares more efficiently.

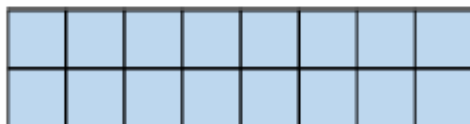


There are 4 squares in 1 row.

There are 3 rows altogether.

3 rows of 4 squares = 12 squares

Use Jack's method to find the area of this rectangle.

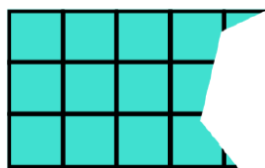


Dexter has taken a bite of the chocolate bar.



The chocolate bar was a rectangle.  
Can you work out how many squares of chocolate there were to start with?

This rectangle has been ripped.



What is the smallest possible area of the original rectangle?

What is the largest possible area if the length of the rectangle is less than 10 squares?

## Friday

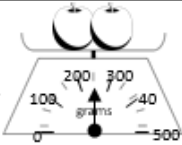
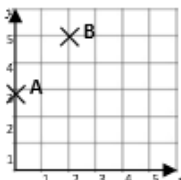
Today you can challenge yourself with the key skills test, along with the challenge activities posted on the BBC website

Remember these sheets are only to work from not on so do not worry if you cannot complete a couple of the questions.

**Mild**

| A: Place Value, Add and Subtract                                                                                                                                  |     |                                                                          |      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------------------------------|------|
| 1. What is the missing number?<br>0 100 200 300 <input type="text"/> 500                                                                                          | 3:1 |                                                                          |      |
| 2. What is the 9 worth in this number?<br>901                                                                                                                     | 3:2 |                                                                          |      |
| 3. Put these in order, largest first.<br>716 176 617 761                                                                                                          | 3:3 |                                                                          |      |
| 4. Draw an arrow to estimate 35.<br><div style="display: flex; justify-content: space-between; width: 100px;"><span>0</span><span>50</span><span>100</span></div> | 3:4 |                                                                          |      |
| 5. Tom counts up in 50s starting from 100. What will his 4 <sup>th</sup> number be?                                                                               | 3:5 |                                                                          |      |
| 6. $624 - 100 =$                                                                                                                                                  | 3:6 | <b>B: Multiply, Divide and Fractions</b>                                 |      |
| 7. $372 + 89 =$                                                                                                                                                   | 3:7 | 11. $48 \div 4 =$                                                        | 3:10 |
| 8. Write a sum to check $46 + 19 = 65$ .<br>Check: $65 \square 19 \square 46$                                                                                     | 3:8 | 12. $4 \times 7 =$                                                       | 3:10 |
| 9. After spending 39p, Tom still has 43p left. How much did he start with?                                                                                        | 3:8 | 13. Use $35 \div 7 = 5$ to solve:<br>$350 \div 70 =$                     | 3:11 |
| 10. What is the missing number?<br>$\square + 239 = 302$                                                                                                          | 3:9 | 14. What is the missing number?<br>$45 \div \square = 3 \times 3$        | 3:12 |
|                                                                                                                                                                   |     | 15. What is the missing fraction?<br>$\frac{2}{1}, \frac{3}{1}, \square$ | 3:13 |

## Medium and Spicy

| A: Place Value, Add and Subtract                                            | B: Multiply, Divide and Fractions                                                              | C: Measure and Geometry                                                                                                                              |
|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. What is the missing number?<br>50 <input type="text"/> 100 125 150       | 11. $72 \div 12 =$                                                                             | 21. Two apples are weighed.<br>How much does 1 apple weigh?<br> |
| 2. What is the missing number?<br>54 63 72 <input type="text"/> 90          | 12. Use $2 \times 4 \times 12 = 96$ to answer:<br>$24 \times 4$                                | 22. Draw the hands to show:<br><b>17:50</b><br>                 |
| 3. What is 1,000 less than 4920?                                            | 13. $83 \times 7 =$                                                                            | 23. What is the name of this quadrilateral?<br>                 |
| 4. Round this number to the nearest 1,000:<br>1,543                         | 14. Shop A sells 6 pens for £3. Shop B sells 2 pens for 90p. Which is cheaper?                 | 24. Plot the point (3, 0). Label it C.<br>                      |
| 5. Put these numbers in order, smallest first:<br>3 -2 0                    | 15. $\frac{1}{2} = \frac{\square}{4} = \frac{4}{\square}$                                      | 25. Points A, B and C form 3 corners of a rectangle. Plot the fourth corner of the rectangle and label it D.                                         |
| 6. Put these in order, smallest first:<br>3,293 1,273 2,837                 | 16. I have $\frac{1}{10}$ of a cake. How many pieces do I cut it into to make $\frac{1}{10}$ ? |                                                                                                                                                      |
| 7. What number does this Roman Numeral represent? <b>XIV</b>                | 17. $\frac{1}{1} - \frac{9}{4}$                                                                |                                                                                                                                                      |
| 8. $3,473 + 1,230 =$                                                        | 18. Write $\frac{1}{10}$ as a decimal number.                                                  |                                                                                                                                                      |
| 9. Write the sum to check $239 - 154 = 85$ :<br>$85 + \square = \square$    | 19. What is the <b>value</b> of the 2 in:<br>1.72                                              |                                                                                                                                                      |
| 10. A 38cm tall plant grows 16cm a year. How tall will it be after 2 years? | 20. Round 7.8 to the nearest whole number.                                                     |                                                                                                                                                      |
| <b>Total (A)</b>                                                            | <b>Total (B)</b>                                                                               | <b>Total (C)</b>                                                                                                                                     |
| <b>Test Total (A+B+C)</b>                                                   | <b>R (0-9)</b>                                                                                 | <b>Y (10-19)</b>                                                                                                                                     |
|                                                                             |                                                                                                | <b>G (20-25)</b>                                                                                                                                     |