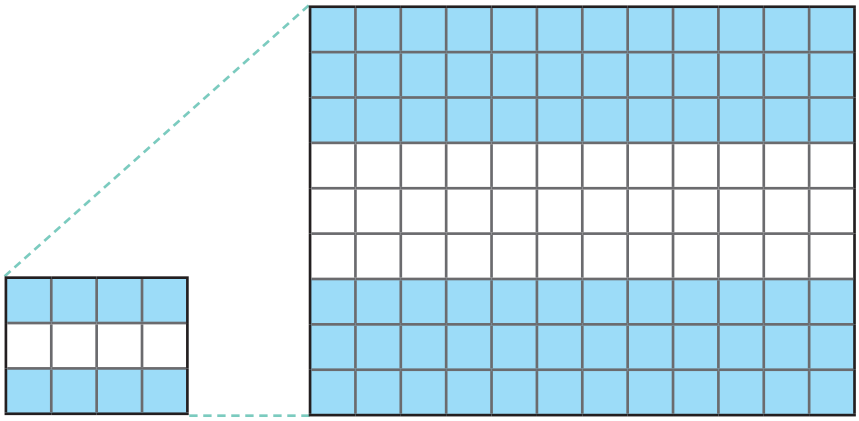
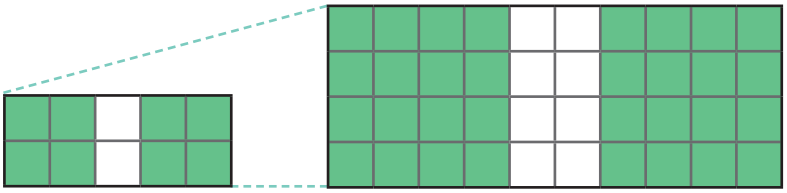
Activity Booklet 5

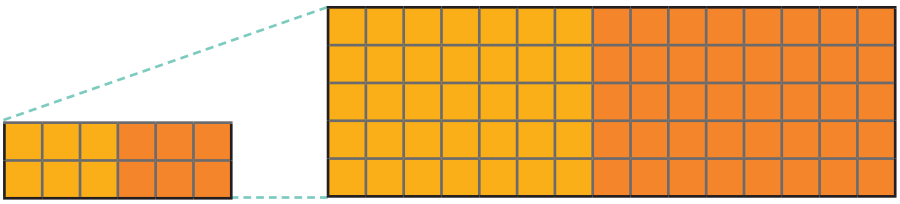
Name: _____

Look carefully at the superhero flags.

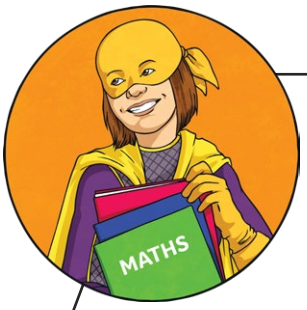
- Can you work out the scale factor that each flag has been enlarged by?



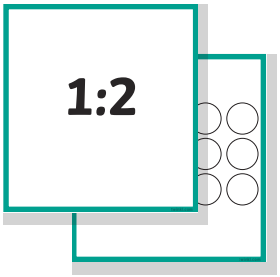




Extra Challenge: Can you give the dimensions of the flags if they are enlarged by the same scale factor again?

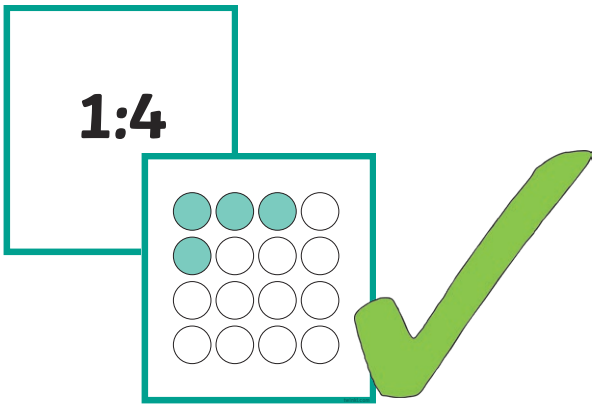


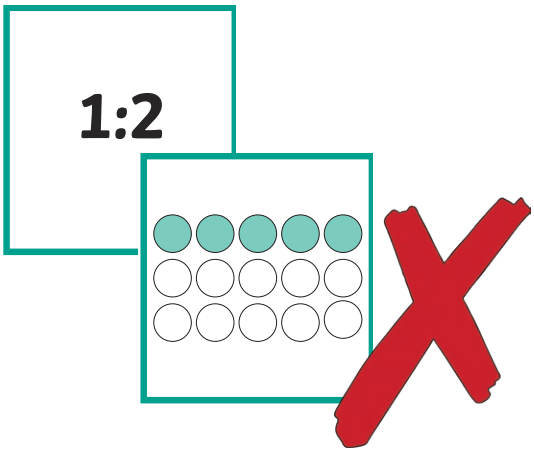
Play this fun matching card game to practise identifying ratios. You will need the **Ratio Matching Cards**.

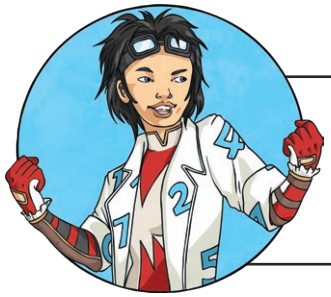


Instructions

- Split the Ratio Matching Cards into the picture cards and the ratio cards.
- Spread the two groups out separately and place them face down on the table.
- On your go, turn over one card from each pile. If the ratio correctly describes the number of shaded circles to unshaded circles, you keep the cards. If they don't, turn them back over.
- The player who collects the most cards wins!



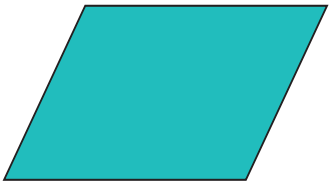




Have a go at answering these SATs-style questions involving ratio and scale factor.

1. Here are the lengths of two similar parallelograms.

Parallelogram	Length
A	5cm
B	20cm



What is the simplified ratio of parallelogram A to B?

:

2. I am cooking a stir-fry. The recipe says I need 280g of chopped pepper for three servings. How many grams of chopped pepper will I need for 9 servings?

g

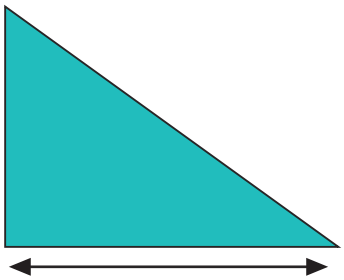
3. A statue is 4 metres tall and 1.6 metres wide. I make a model of the statue that is 1 metre tall. How wide is my model?

cm

Look at this **incorrectly** completed SATs question.

- What is the important information to identify?
- How is it best to work out the answer?
- What advice would you give to the child who completed this question?

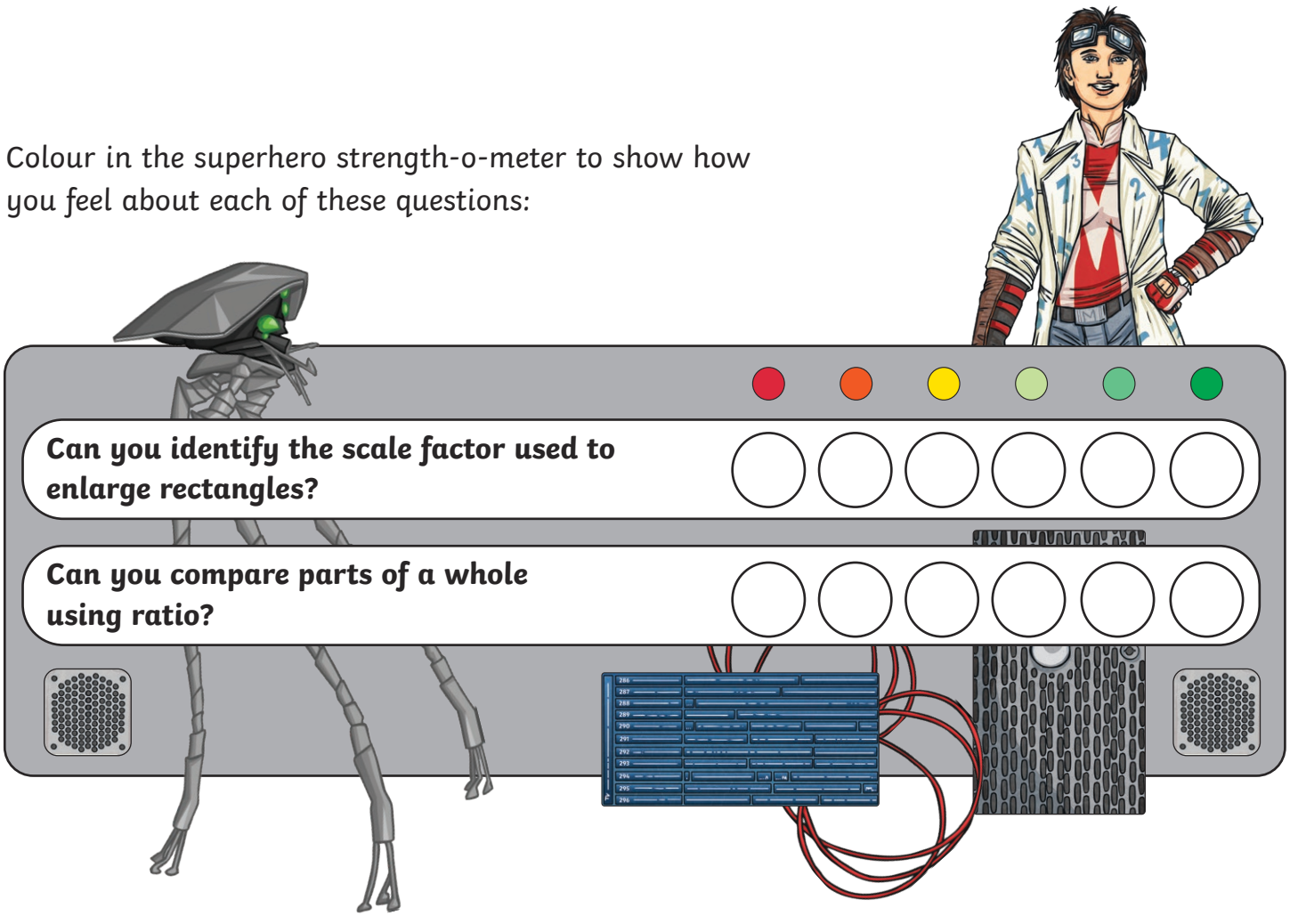
1. If this triangle is enlarged by a scale factor of 3, what will the length of side A be?



Side A = 9cm

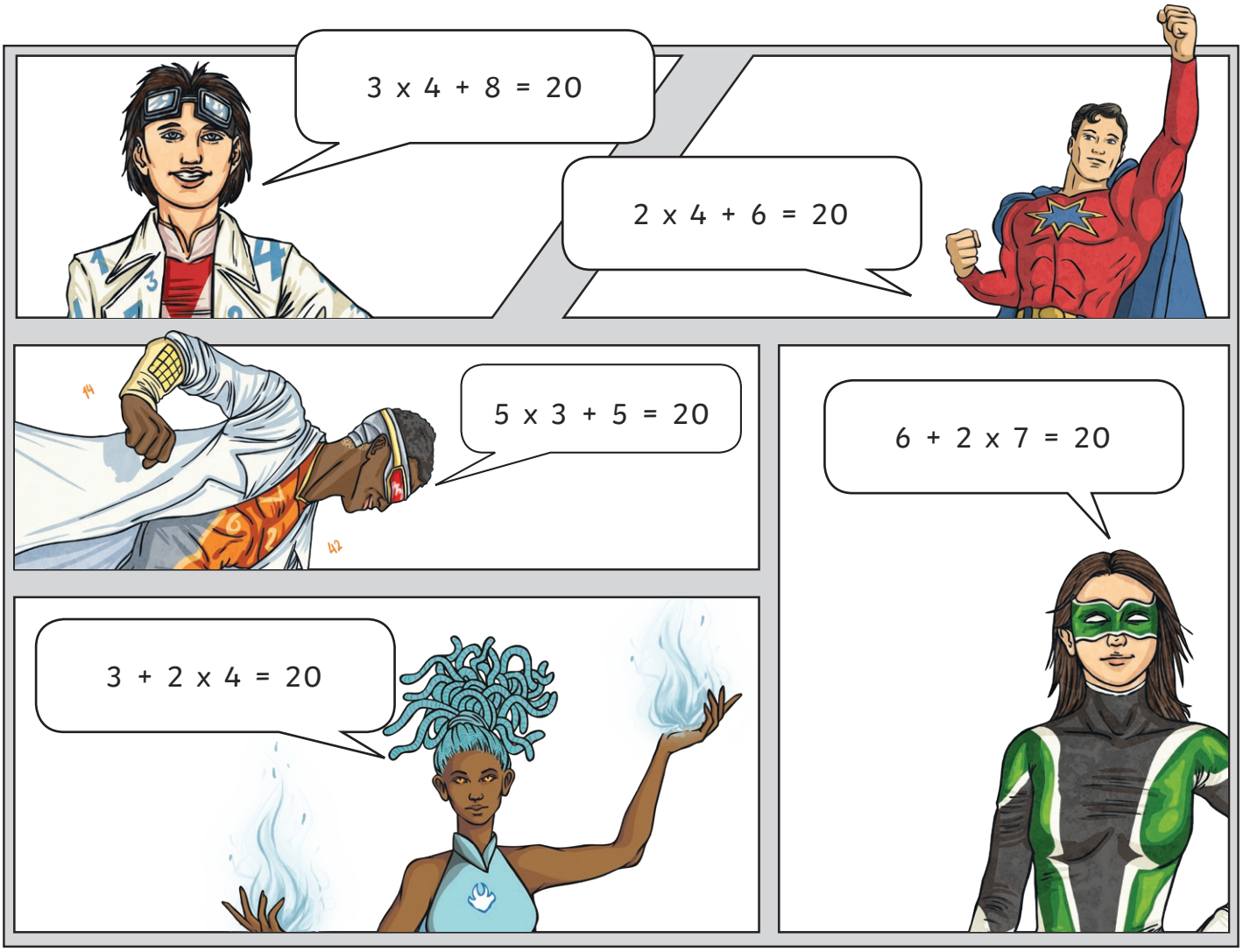
9cm + 3cm = 12

Colour in the superhero strength-o-meter to show how you feel about each of these questions:

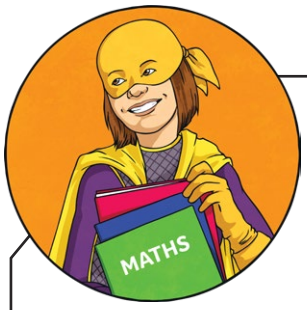


Look carefully at the different superhero calculations.

- Which of the calculations are correct?
- Which of the calculations are incorrect?
- Can you explain why? What are the correct answers to the incorrect calculations?



Extra Challenge: Can you put brackets into the above calculations to help show which part should be calculated first?



Play this fun game of bingo to practise using the order of operations in calculations. You will need the **BODMAS Bingo Cards.**

Instructions

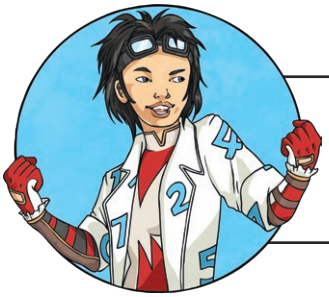
- Choose one of the superheroes to be your playing board.
- Turn over one of the BODMAS Bingo Cards. Work out the answer to the calculation on the card. If it matches a number on your board, cross it off.
- The first player to cross off all the numbers on their board wins!

BODMAS Bingo		
21		38
92		84
67		72

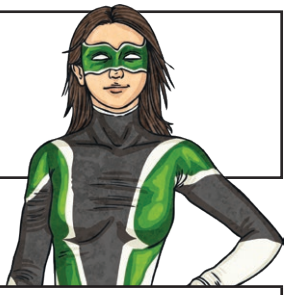
BODMAS Bingo		
29		65
72		84
38		67

BODMAS Bingo		
43		42
69		38
58		65

BODMAS Bingo		
42		58
72		92
65		67



Have a go at solving these SATs-style problems involving the order of operations.



1. Write the missing numbers to make these calculations correct.

75 x ☐ − 75 = 225

(30 - ☐) x 10 = 240

2. Write the correct sign, >, < or =, in each of the following.

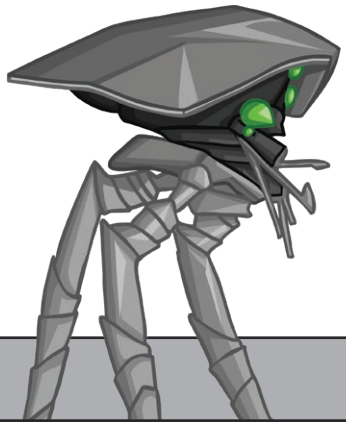
100 - (20 × 3)		(6 × 10) - (2 × 12)
120 - (8 × 7)		100 - (4 × 9)
(100 - 17) + (7 × 6)		1,000 ÷ (60 ÷ 12)
(100 ÷ 10) + (11 × 7)		(120 ÷ 10) + (9 × 8)

Look at this **incorrectly** completed SATs question.

- What is the important information to identify?
- How is it best to work out the answer?
- What advice would you give to the child who completed this question?

1. Write the missing numbers to make these calculations correct.

500 x 500 - 500 = 500



Colour in the superhero strength-o-meter to show how you feel about each of these questions:

Can you use the rules of BODMAS to solve calculations involving the four operations?

Can you perform mental calculations with mixed operations?

Can you solve multi-step problems in conetxts, deciding which operations and methods to use and why?

The superheroes are making delicious snack bars to help maintain their strength and stamina. The recipe says that they need 200g of rolled oats for 10 snack bars.

- How many grams of rolled oats will each superhero need?

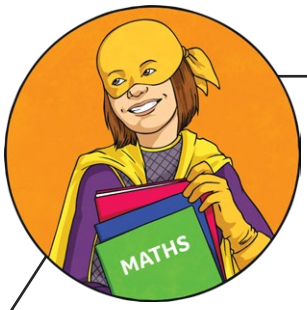
I am making **20** snack bars.

I am making **5** snack bars.

I am making **30** snack bars.

I am making **15** snack bars.

Extra Challenge: The recipe also says to use 60g of peanut butter for every 100g of rolled oats. How many grams of peanut butter will each superhero need?

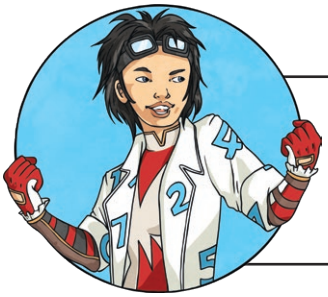


Play this fun, superhero board game to practise answering problems involving ratios and unequal sharing and grouping. You will need the **Unequal Sharing Challenge Cards**, dice and counters.

Instructions

- Take it in turns to roll the dice and move around the board.
- If you land on a 'POW' space, take a challenge card and solve the word problem. If you get it right, score a point.
- You also score a point each time you pass 'Start'.
- Finish the game when all the challenge cards have been used.
- The person with the most points is the winner!

Start	1	2	3 POW!	4
15 POW!				5
14 POW!		**Place the challenge cards here.**		6
13				7 POW!
12	11 POW!	10	9 POW!	8



Have a go at answering these SATs-style questions involving unequal sharing and grouping.

1. Look at the ratio **3:5**.
   If one of the parts is 45, there are two possible values for the other part.
   What are the two possible values?

2. At my allotment, I plant onions and carrots. I plant 2 onions for every 5 carrots. Altogether, I plant 140 onions and carrots. How many carrots did I plant?

   carrots

3. On a map, 1cm represents 25km. The distance between two cities is 150km. On the map, what is the distance between the two cities?

   cm

Look at this **incorrectly** completed SATs question.

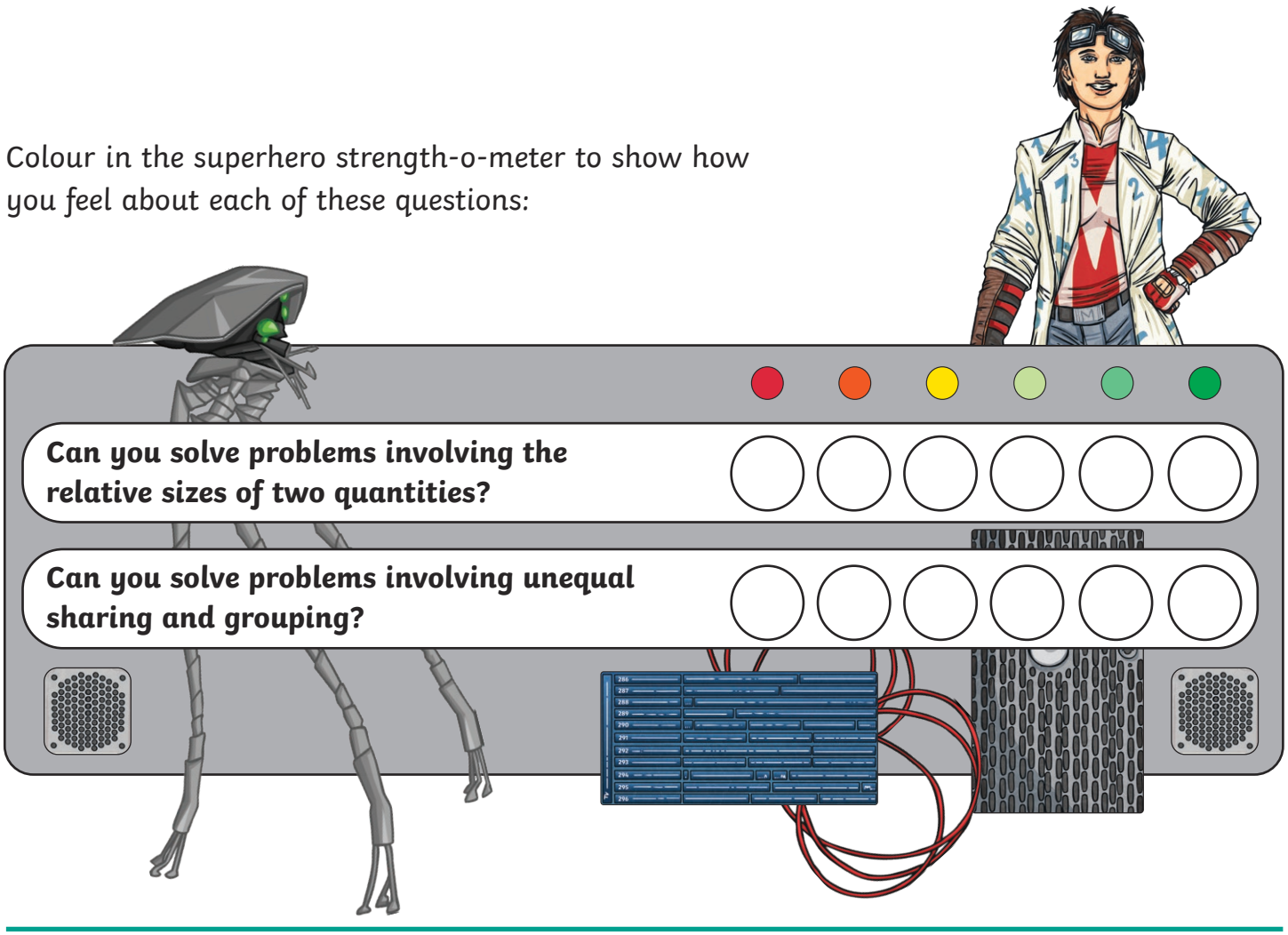
- What is the important information to identify?
- How is it best to work out the answer?
- What advice would you give to the child who completed this question?

1. A kilogram of grapes costs £4.00. How much does 400g of grapes cost?

$\frac{1}{4}$ of £4.00 = £1.00

£1.00

Colour in the superhero strength-o-meter to show how you feel about each of these questions:

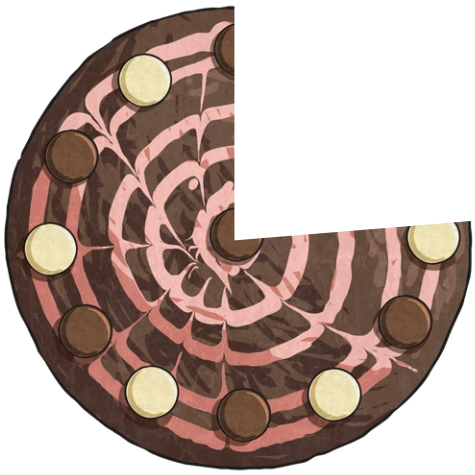


The superheroes are having a party to celebrate defeating over one hundred evil villains!

- How many degrees of each cake have the superheroes taken?

308°

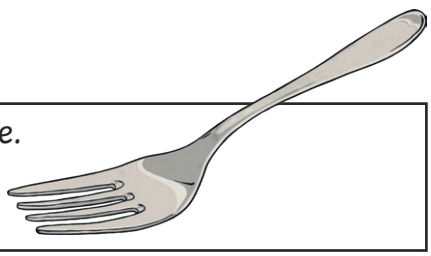
214°

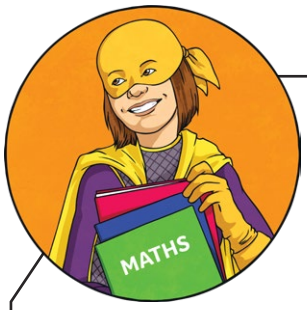


275°

100°

Extra Challenge: The superheroes cut another 90° from each cake. How much of each cake is left in degrees?

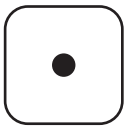


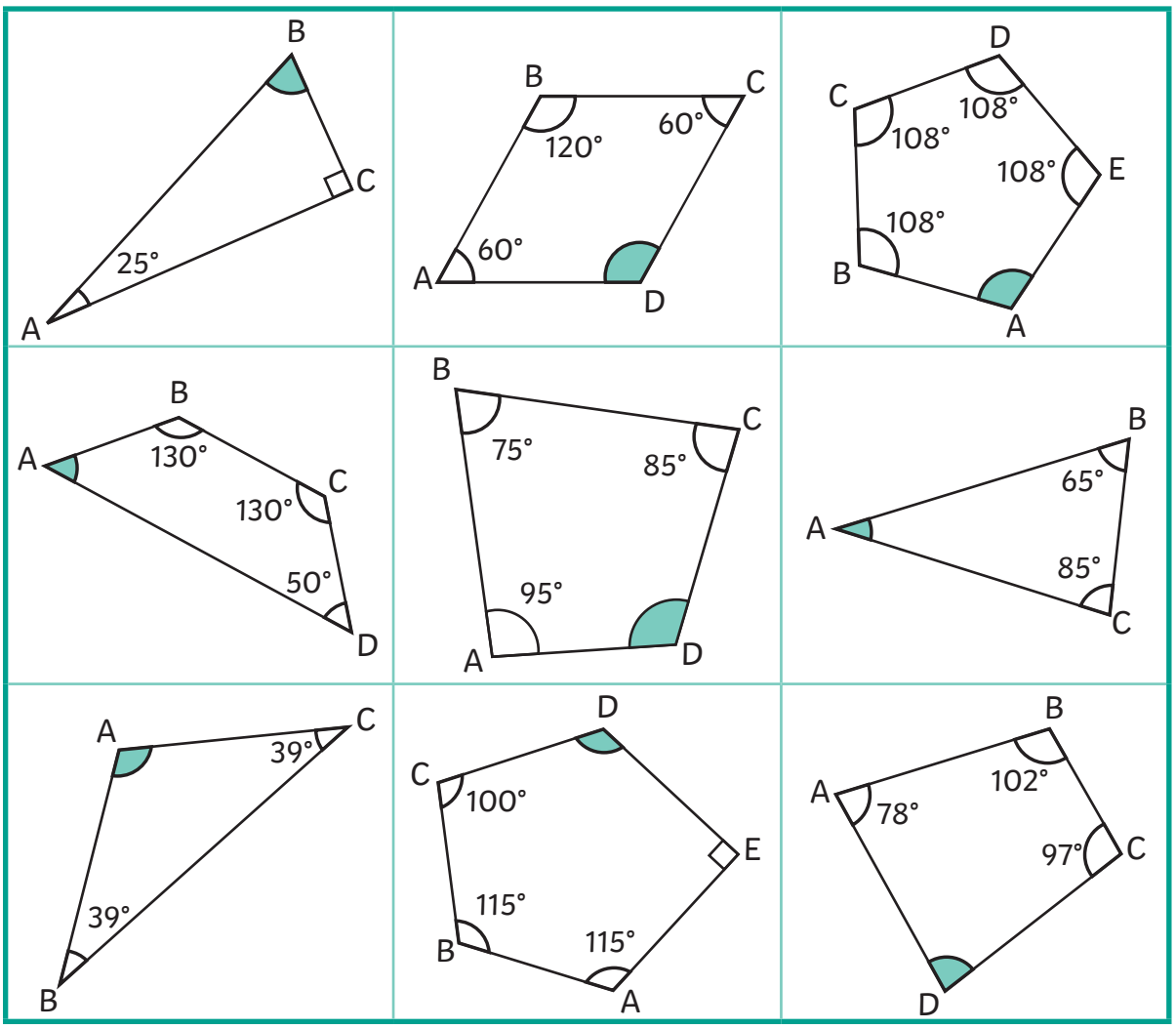


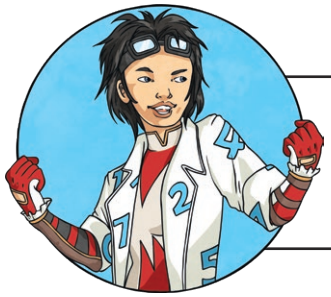
Play this fun dice game to practise calculating missing angles in triangles, quadrilaterals and pentagons. You will need a dice.

Instructions

- On your turn, roll the dice.
- Calculate the missing angle of any shape in the column or row of the number you rolled.
- If you are correct, you can claim the shape by colouring it in.
- The first player to complete three in a row horizontally, vertically or diagonally wins!







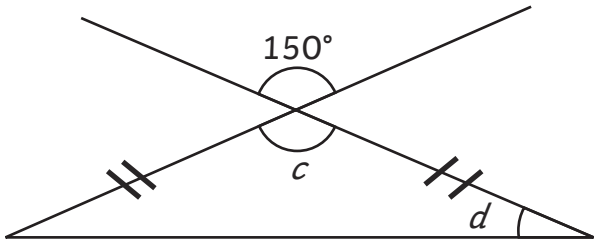
Have a go at answering these SATs-style questions involving finding unknown angles in triangles and quadrilaterals.

1. Complete the table to show the size of the angles in each polygon.

	Angle 1	Angle 2	Angle 3
Isosceles Triangle		25°	25°
Scaline Triangle	70°	95°	

	Angle 1	Angle 2	Angle 3	Angle 4
Parallelogram	115°	65°		65°
Isosceles Trapezium		95°	85°	95°

2. Calculate the size of angle **d**.



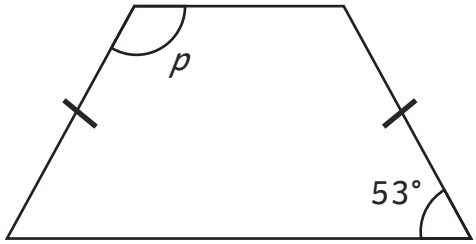
Not to scale

°

Look at this **incorrectly** completed SATs question.

- What is the important information to identify?
- How is it best to work out the answers?
- What advice would you give to the child who completed this question?

1. Calculate the size of angle **p**.

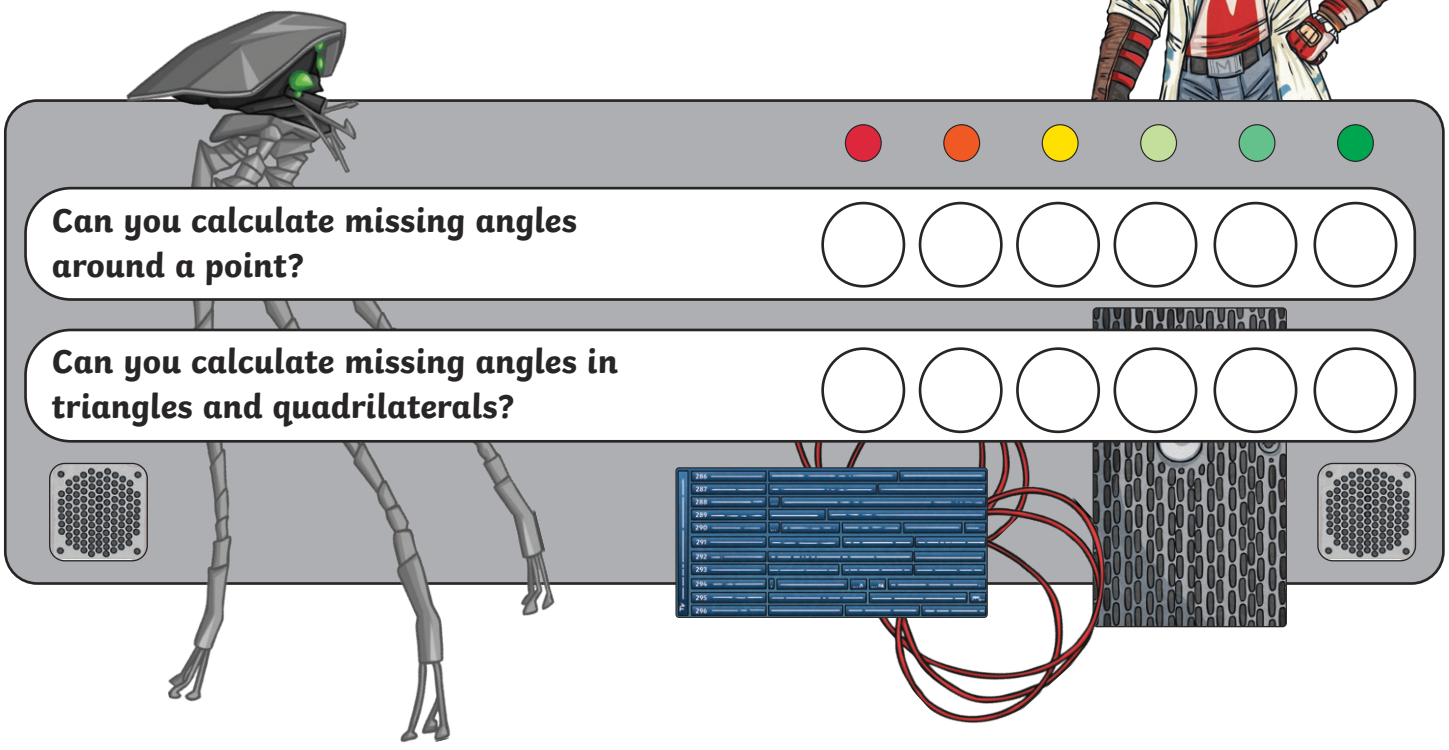


Not to scale

360 ° - 53 ° = 307 ° °

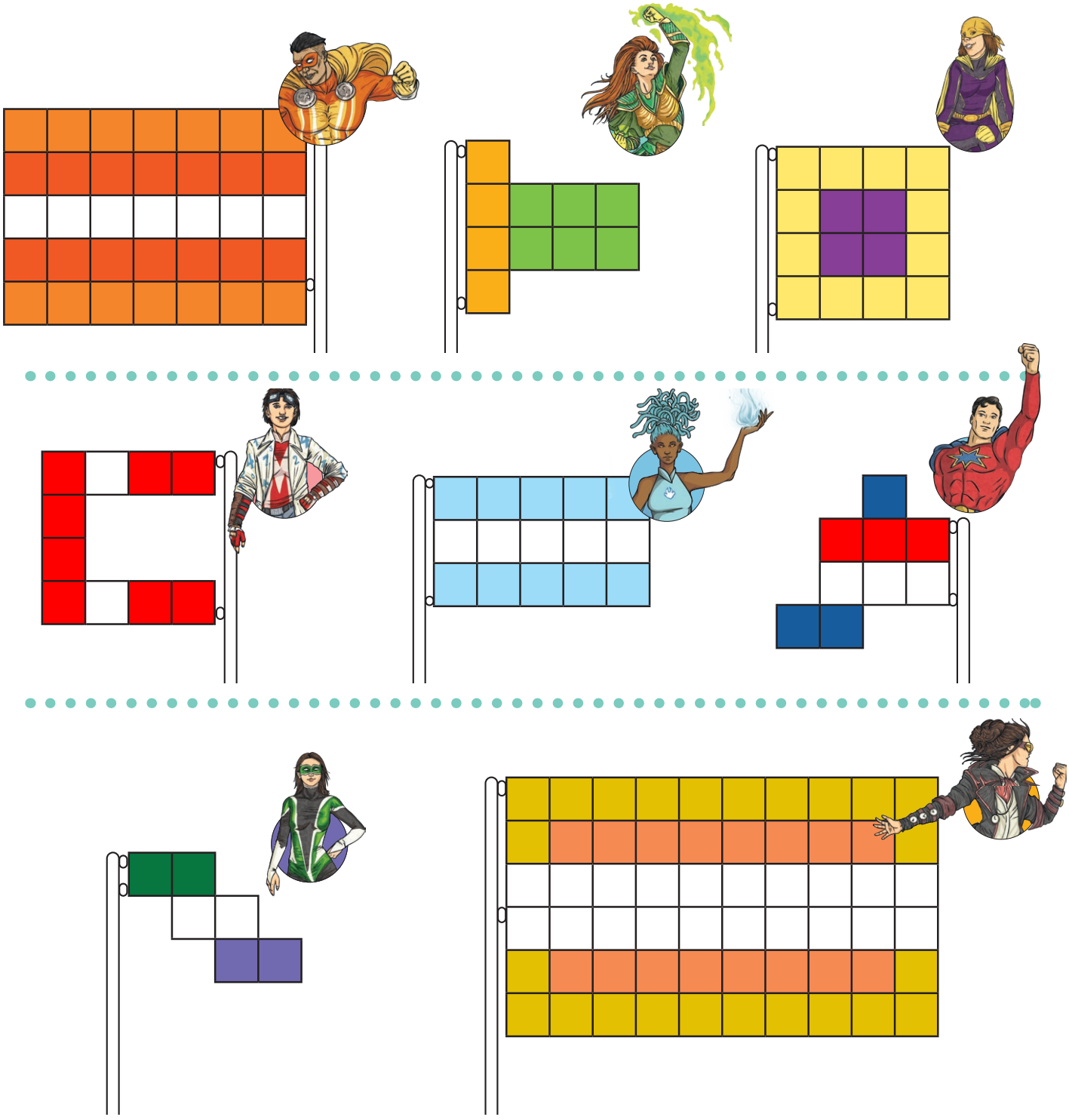
307°

Colour in the superhero strength-o-meter to show how you feel about each of these questions:

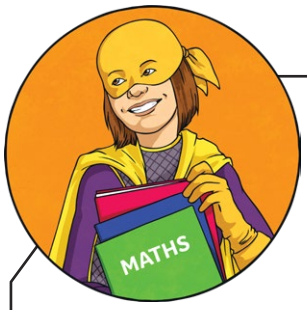


Look at the different rectilinear superhero flags measured in centimetre squares. *(Not drawn to scale.)*

- Which of the superhero flags have the same perimeter?



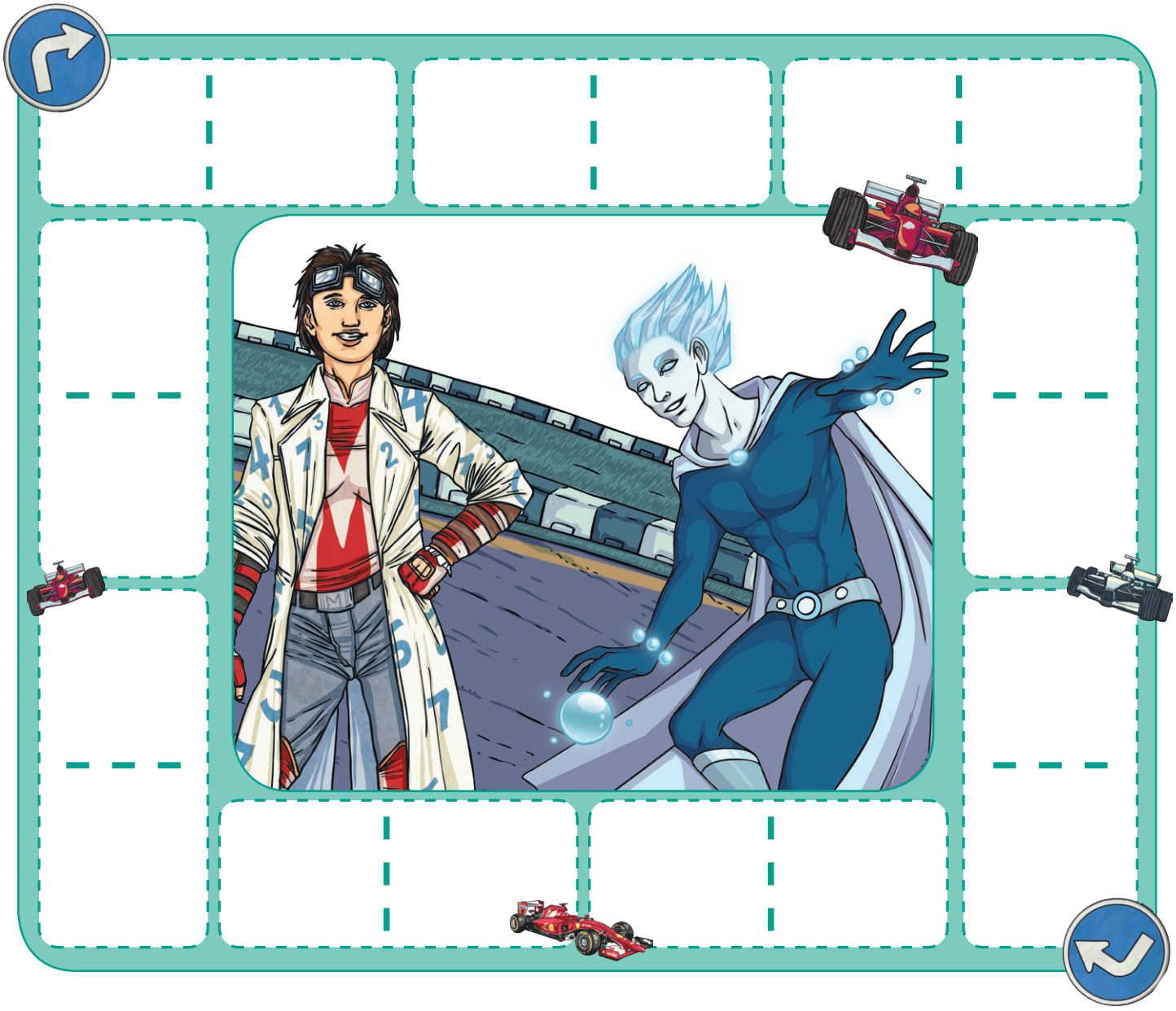
Extra Challenge: Which superhero flags have the same perimeter or area?

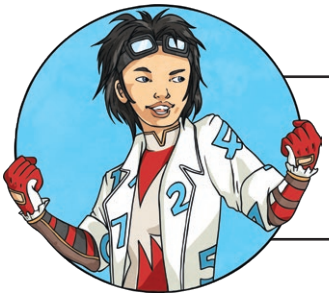


Play this fun dominoes game to practise finding the volume of cubes and cuboids. You will need the **Volume of Cuboids Dominoes**.

Instructions

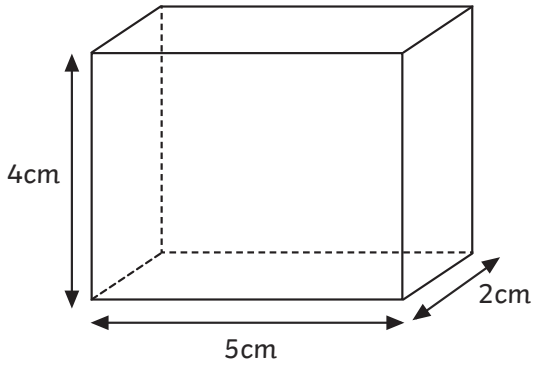
- The first player takes a domino and places it anywhere on the superhero racetrack.
- The second player finds a domino that matches to either end of the first domino and places it next to the first one on the track.
- Continue matching dominoes. Can you complete the superhero racetrack?



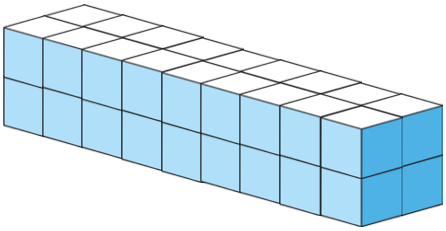


Have a go at solving these SATs-style problems.

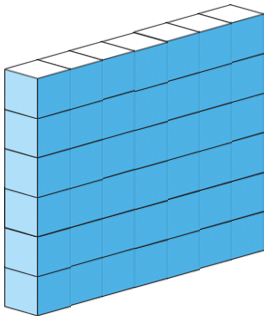
1. I make this cuboid.



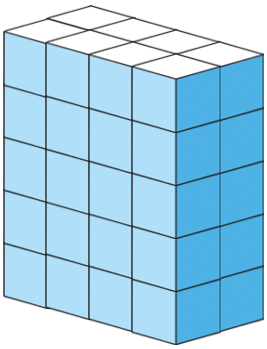
Tick the cuboid that has the same volume as my cuboid.



☐



☐



☐

2. A square tile measures 8cm by 8cm.
A rectangular tile is 4cm longer and 3cm narrower than the square tile.
What is the difference in area between the two tiles?

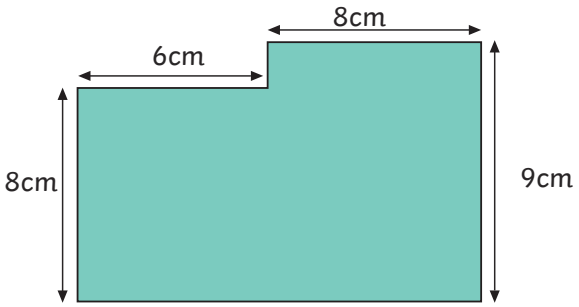
Show your method

cm²

Look at this **incorrectly** completed SATs question.

- What is the important information to identify?
- How is it best to work out the answers?
- What advice would you give to the child who completed this question?

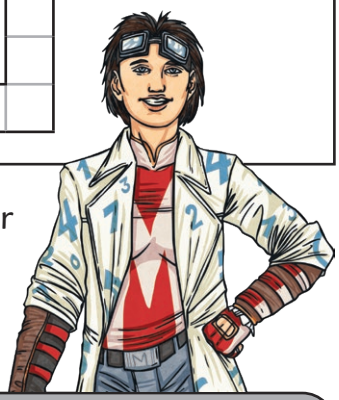
1. Calculate the perimeter of this polygon. (Not drawn to scale.)



Show your method

9cm + 8cm + 6cm + 8cm

31 cm



Colour in the superhero strength-o-meter to show how you feel about each of these questions:

Can you calculate the perimeter of rectilinear shapes?

Can you calculate the area of rectilinear shapes?

Can you calculate the volume of cubes and cuboids?