

# Working At

## Activity Booklet 4

Name: \_\_\_\_\_





Choose a negative number from the left-hand column and a positive number from the right-hand column.

Can you work out the difference between the two numbers?

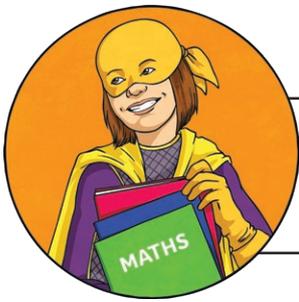
Use the negative number line to help you count.

-8	3
-4	5
-6	4
-9	2
-7	6



**Extra Challenge**

Can you write the numbers in the task in a missing number calculation? For example, finding the difference between -5 and 1 could be written as  $-5 + 6 = 1$  or  $1 - 6 = -5$ .



Play this fun game to practise calculating with negative numbers. You will need a dice.

**Instructions:**

- On your turn, roll a dice. Find two numbers on the grid which have a difference of the number rolled.
- The first player to claim four squares in a row or column wins.

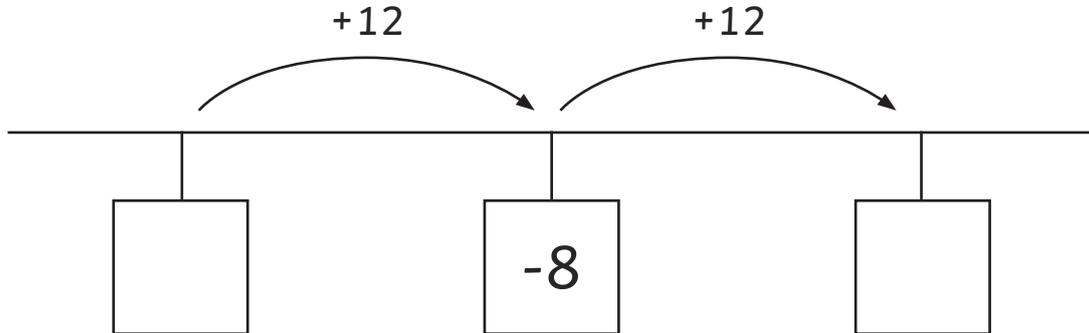
-6	-5	-4	-3	-2	-1	0
-5	-4	-3	-2	-1	0	1
-4	-3	-2	-1	0	1	2
-3	-2	-1	0	1	2	3
-2	-1	0	1	2	3	4
-1	0	1	2	3	4	5
0	1	2	3	4	5	6



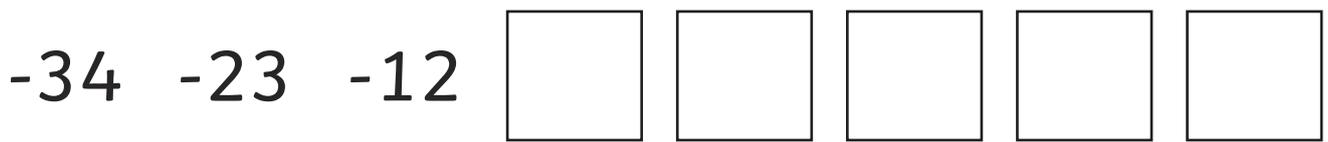


Answer these SATs-style problems involving negative numbers.

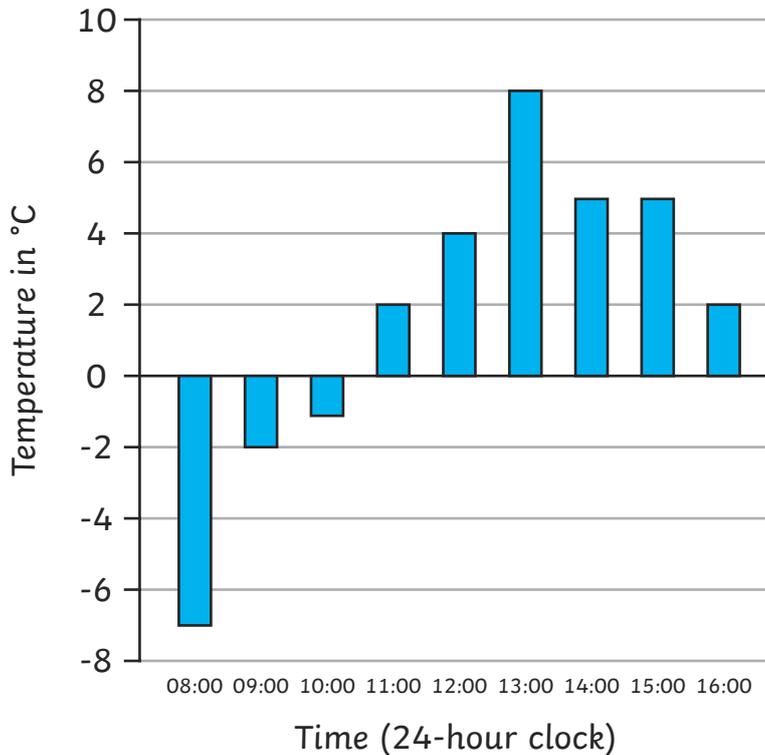
1. Here is part of a number line. Write the missing numbers in the boxes.



2. What are the missing numbers in this number sequence involving negative numbers?



3. This bar chart shows the temperature of the school playground during a winter's day.



What is the difference between the highest and lowest temperatures measured?



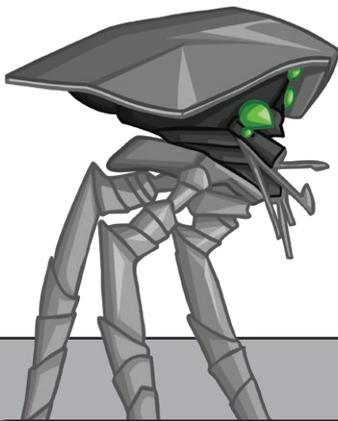
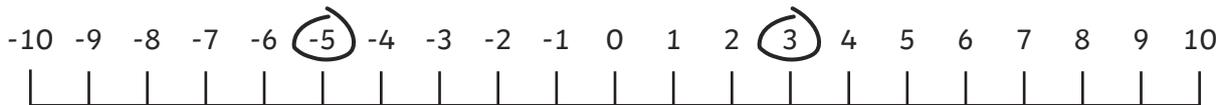


Look at this **incorrectly** completed SATs question.

- 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. Circle two numbers on the number line that have a difference of nine.



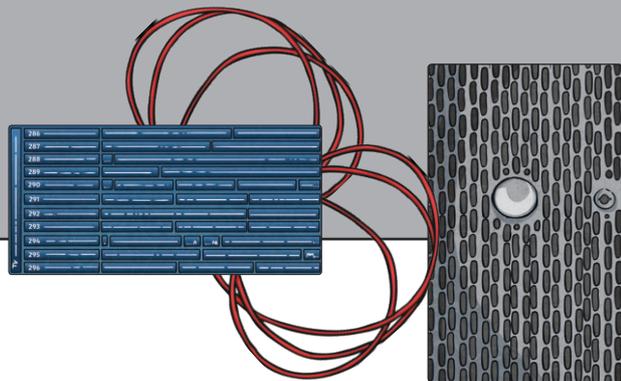
Colour in the superhero strength-o-meter to show how you feel about each of these questions:



Can you use negative numbers in context and calculate intervals across zero?

● ● ● ● ● ●

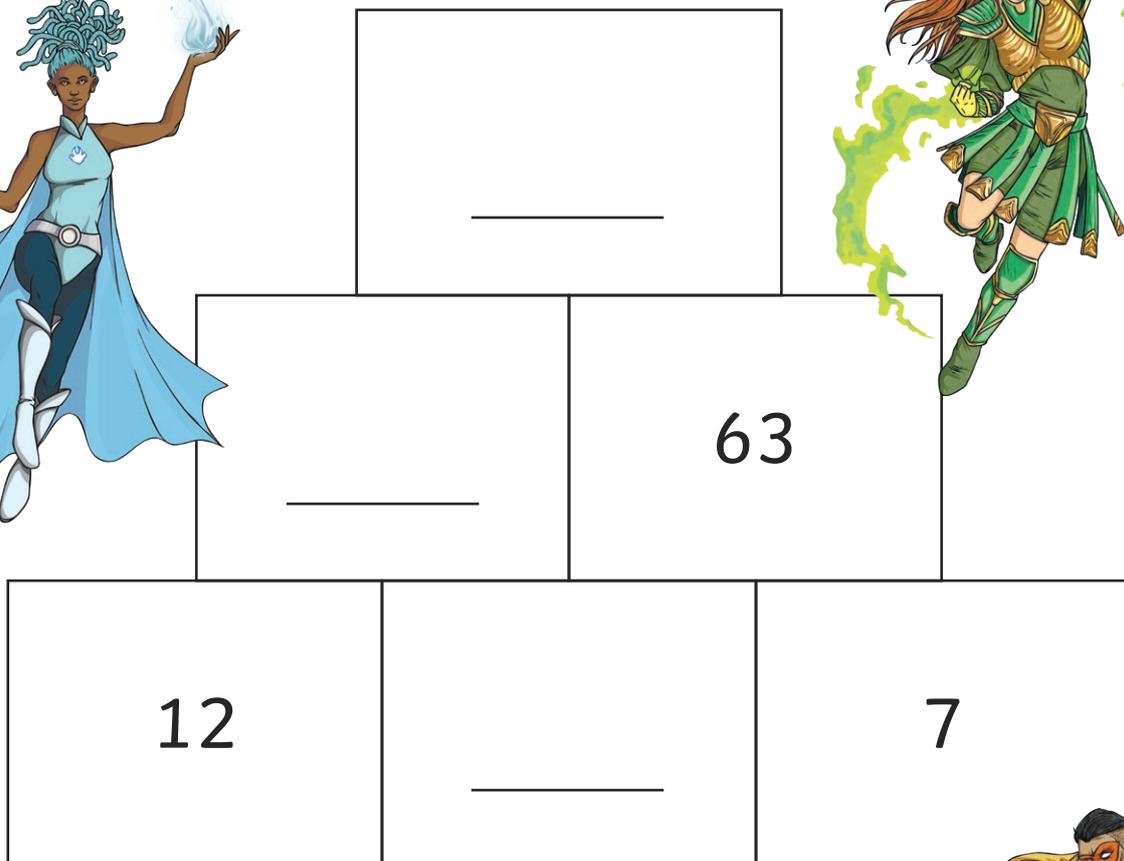
Can you solve number and practical problems involving negative numbers?





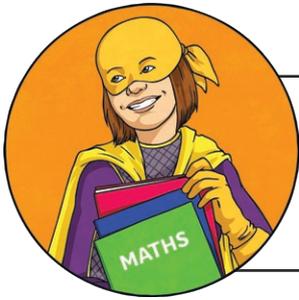
In this tower, two numbers are multiplied to give the number above.

- Work out the missing superhero numbers.
- How will you check that you have the correct answer?
- Where will you use written and mental methods?



**Extra Challenge**

Can you make your own multiplication pyramid for a friend to solve?



Play this fun, superhero board game to practise answering problems involving all four operations. You will need the **Superhero 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 answer it correctly, you score a point.
- You also score a point each time you pass the start.
- Finish the game when all of the challenge cards have been used.
- The person with the most points is the winner!



<b>Start</b>	<b>1</b>	<b>2</b>	<b>3</b> 	<b>4</b>
<b>15</b> 	<p>Place the Superhero Challenge Cards here.</p>			<b>5</b>
<b>14</b> 				<b>6</b>
<b>13</b> 				<b>7</b> 
<b>12</b> 				<b>11</b> 



Answer these SATs-style questions involving all four operations.

- Lara chooses a number.  
She divides it by 2 and then adds 5.9.  
She then divides this result by 3.  
Her answer is 5.3.

What was the number she started with?

Show your method																				

- Aneesha buys four magazines.  
Each magazine costs the same.  
She pays with a £20 note.  
Her change is £9.28.

What is the cost of one magazine?

Show your method																				





Look at the superheroes and their badges.

- Can you match each superhero to the correct badge?
- Explain your reasoning.

20% of 150



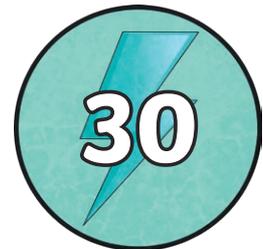
5% of 120



50% of 42



75% of 56

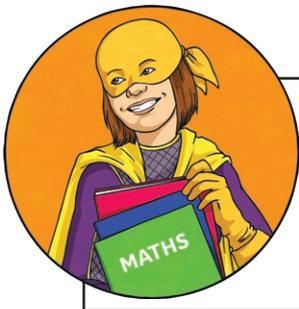


25% of 400



### Extra Challenge

Can you find 10% of each of the numbers on the superhero badges?



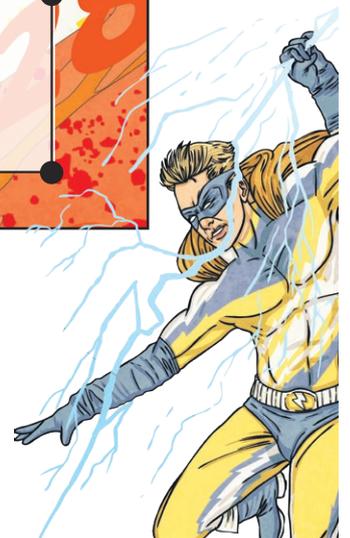
Play this fun game to practise finding percentages of amounts. You will need the two **Percentage Spinners** and should use a pencil and paperclip to make them spin.



**Instructions:**

- On your turn, spin both spinners to make a percentage problem to solve.
- Find the answer on the grid and join two dots around it to make an edge.
- If you draw the fourth edge of a square, you claim it.
- The player with the most complete squares wins.

12	30	60	90
4	10	20	30
8	20	40	60
16	40	80	120
24	8	16	32







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. Hassan scores 45 out of 90 in a test. Kate scores 45% in the same test. Who has the higher score? Explain how you know.

*Kate scored higher as 45% is more than 45 out of 90.*



Colour in the superhero strength-o-meter to show how you feel about the question:

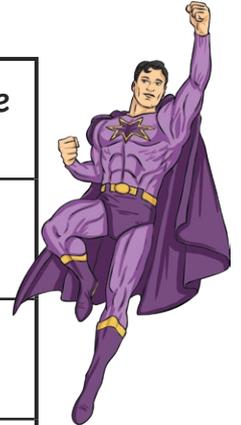


Can you solve problems involving the calculation of percentages?

Strength-o-meter: Six colored circles (red, orange, yellow, light green, green, dark green) above six white circles.



The superheroes take part in two flying races. Look carefully at the results.



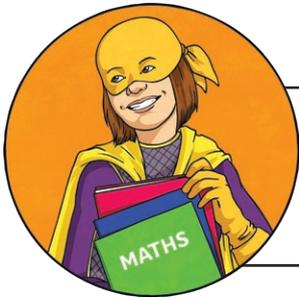
	Flying Sprint (1 mile)	Endurance Flying Race (25 miles)
<b>Rosie</b>	45.9 seconds	30 minutes 02 seconds
<b>Ugo</b>	49.7 seconds	29 minutes 58 seconds
<b>Alex</b>	46.8 seconds	30 minutes 01 seconds
<b>Andy</b>	47.1 seconds	29 minutes 59 seconds
<b>Ellie</b>	48.4 seconds	29 minutes 57 seconds
<b>Chloe</b>	46.5 seconds	30 minutes 10 seconds



- Who finished the flying sprint in second place?
- In the endurance flying race, who finished in fourth place?
- How many tenths of a second did Rosie finish ahead Alex in the flying sprint?

**Extra Challenge**

Create your own question about the two flying races for a friend to solve.



Play this card game to practise reading the time on analogue and digital clocks, and calculating time durations. You will need the **Time Cards**.

### Instructions:

- Shuffle the **Time Cards** and deal four cards to each player. Place the remaining cards face down in a central pile.
- For each round, turn over the top card of the central pile. Each player selects one of their cards to play, calculating the time duration between the time on the central card and the card they are playing.
- The player with the shortest time duration wins the round.
- The player with the most points after four rounds wins!





Answer these SATs-style questions involving calculating time durations and converting between units of time.



1. How many minutes are there in two days?

2. Robert finished a sponsored run in 36 minutes 32 seconds.  
Aneesha finished 4 minutes 25 seconds after Robert.  
How long did Aneesha take in minutes and seconds?

3. A film starts at 18:45.  
It lasts 2 hours and 35 minutes.  
What time will the film finish? Write your answer using 24-hour time.



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. Look at the time shown on this watch.

Daniil goes to bed at quarter past eight in the evening.  
How many more minutes are there until Daniil's bedtime?



*18:24 to 19:00 = 34 minutes,*  
*19:00 to 20:15 = 75 mins*  
*75 mins + 34 mins = 109 minutes*



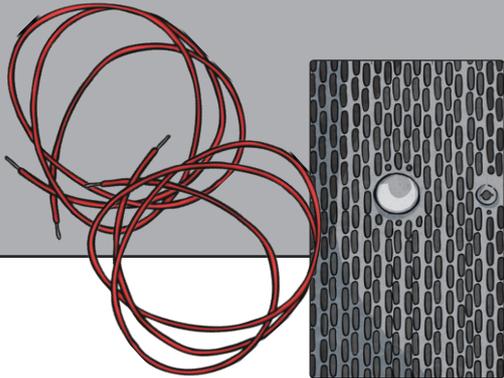
Colour in the superhero strength-o-meter to show how you feel about each of these questions:



**Can you read and write time on analogue and digital 12- and 24-hour clocks?**

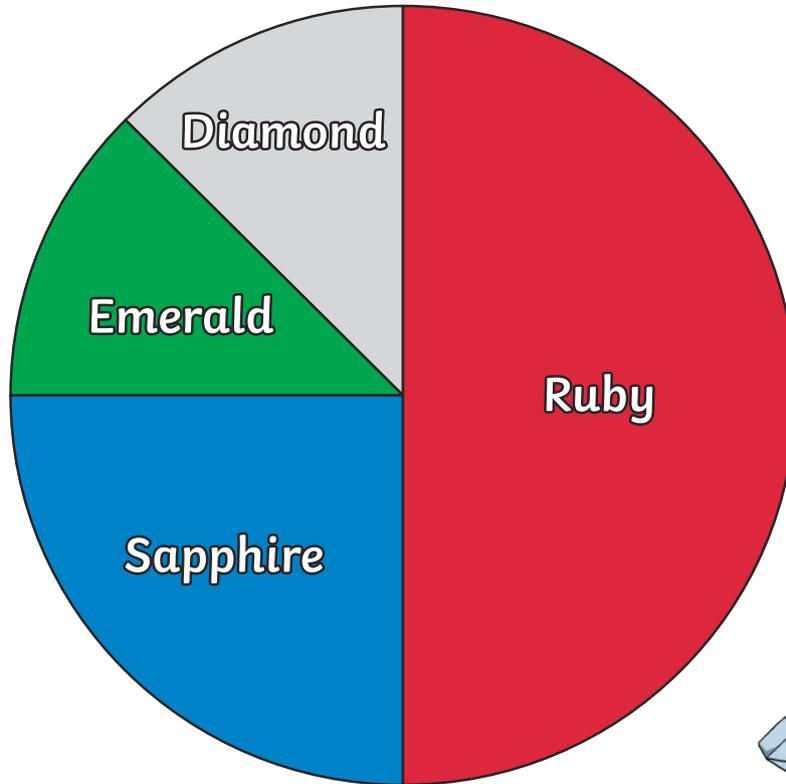
● ● ● ● ● ●

**Can you solve problems involving converting between and calculating with units of time?**





The superheroes recover a bag of gemstones from a villain. This pie chart shows how many of each gemstone the superheroes recovered during one day.



Based on the pie chart, sort the True or False Cards according to whether the statement on the card is true or false. Can you explain your decisions?

$\frac{1}{2}$  of the gemstones recovered were sapphires.  
true or false

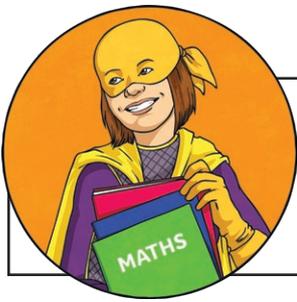
$\frac{1}{8}$  of the gemstones recovered were diamonds.  
true or false

The number of diamonds and emeralds recovered was equal.  
true or false

There were more rubies recovered than emeralds.  
true or false

### Extra Challenge

If there were 40 gemstones recovered in total, how many of each stone would have been recovered?



Complete this activity to practise representing data as a pie chart. You will need a dice and coloured pencils.

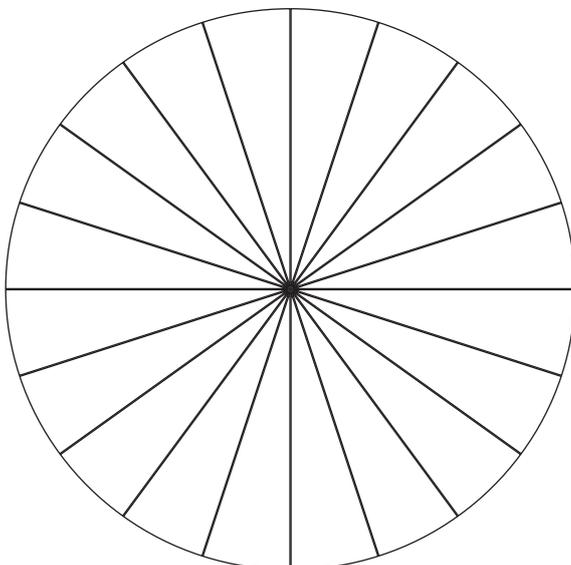


- The heroes recovered another bag containing 20 gemstones. Take it in turns to roll a dice twenty times. Record your dice rolls in the frequency table below. Each number matches with a gemstone recovered by the superheroes.

Dice Number	Gemstone Colour	Tally	Frequency
	Red		
	Orange		
	Yellow		
	Green		
	Blue		
	Pink		

Total: 20

- Represent the data you have collected as a pie chart:



Key	
Red	
Orange	
Yellow	
Green	
Blue	
Pink	



Answer these SATs-style questions involving answering questions about data represented in a pie chart.

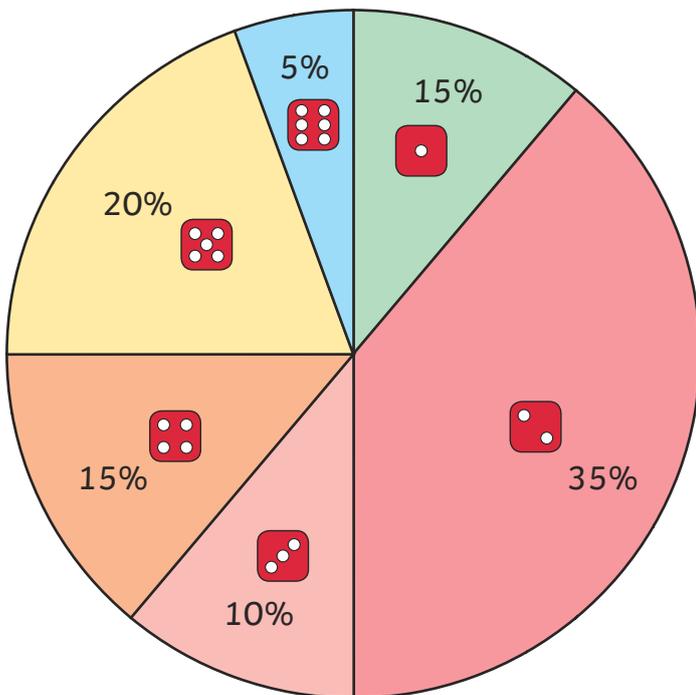


1. Use the pie chart you created in the previous activity to answer these questions.

a) What fraction of the gemstones were orange?

b) What percentage of the gemstones were blue?

2. This pie chart shows the outcome of 80 dice rolls.



a) How many of the dice rolls were a number 3?

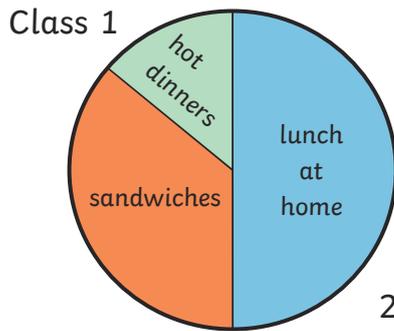
b) How many of the dice rolls were a number 2?



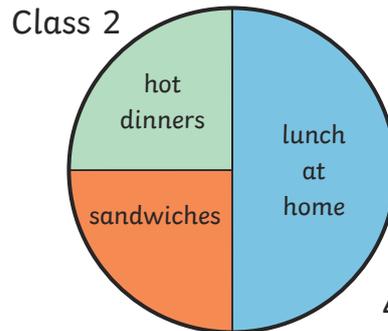
Look at this **incorrectly** completed SATs question.

- 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. Two classes were asked to vote for their favourite lunch. The pie charts show the results.



24 children



40 children

Hari says, "There are more children in class 2 that prefer sandwiches."

Is he correct? Explain your answer.

*Hari isn't correct because only  $\frac{1}{4}$  of the children had sandwiches in class 2 but more than  $\frac{1}{4}$  had sandwiches in class 1.*

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

**Can you interpret information in a pie chart?** ○ ○ ○ ○ ○ ○

**Can you solve problems involving data?** ○ ○ ○ ○ ○ ○