

# The Mystery of the Royal Cake

## Maths Mystery Game

There is a royal celebration taking place at Buckingham Palace and guests from all over the world are attending. There is music, entertainment, endless amounts of food and the most spectacular, delicious cake.

While everyone at the party is enjoying themselves, the staff are very confused about this wonderful cake. It wasn't made by the royal chefs so a guest must have made it and brought it with them.

The staff inform the Royal Family who insist that the mystery baker must be identified and rewarded. As you are the Royal Family's private detective, you are called in to investigate who the mystery baker is.

Can you solve the clues and find which guest baked the cake?





# Guest List



Name	Country	Age	Eye Colour	Favourite Music	Favourite Food
Lucinda Castle	India	58	blue	rock	pasta
Eric Knight	Australia	32	hazel	classical	pizza
Felix King	Canada	47	green	classical	seafood
Beatrix Crown	India	62	blue	hip-hop	vegan
Aleena Highness	Brazil	41	blue	pop	seafood
Alistair Guard	Canada	28	blue	hip-hop	vegan
Jeremy Duke	Italy	39	hazel	rock	pizza
Monika Noble	India	30	green	classical	pasta
Anna Windsor	UK	78	brown	pop	vegan
Sam Royal	India	50	blue	classical	seafood
Elvie Palace	Brazil	26	hazel	rock	seafood
Otilie Hampton	Canada	39	blue	classical	pizza
Alex Monarch	India	45	green	classical	pasta
Meera Queenly	Australia	57	blue	hip-hop	pizza
James Lord	Italy	22	brown	rock	pasta
Luke Baron	UK	34	hazel	rock	vegan
Cora Kensington	India	60	blue	pop	seafood
Imran Prince	Canada	29	blue	classical	vegan
Robin Regal	India	48	blue	pop	vegan
Maya Sandringham	Brazil	46	hazel	pop	pizza
Lee Sovereign	India	55	blue	rock	vegan
Rufus Balmoral	Australia	33	hazel	hip-hop	vegan
Isla Majesty	Canada	30	green	hip-hop	pizza
Bobby Highgrove	Italy	48	blue	hip-hop	seafood



# Clue 1: True or False?



Identify whether these mathematical statements are true or false and tick the correct column.

If there are more true answers, the mystery baker is under 40.

If there are more false answers, the mystery baker is over 40.

	True	False
$8 \times 4 = 12 \times 3$		
$63 = 9 \times 7$		
$77 \div 11 = 35 \div 5$		
$6 \times 6 = 12$		
$144 \div 12 = 11$		
$56 \div 7 = 8 \times 0$		
$3 \times 4 = 36 \div 3$		
$5 \times 3 \times 2 = 25$		
$45 \div 9 = 5$		
$64 \div 8 = 16 \div 2$		
$1.2 \times 5 = 0.2 \times 3$		
$96 \div 4 = 23$		
$384 \div 12 = 32$		
$17 \times 15 = 51 \times 5$		
$3.4 \times 40 = 126$		

**Clue 1:** The mystery baker is \_\_\_\_\_.



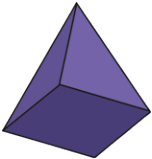
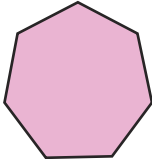

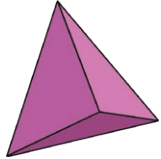
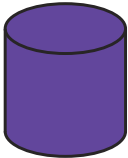
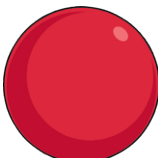
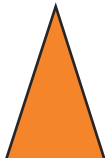

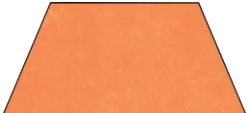
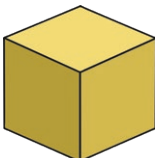
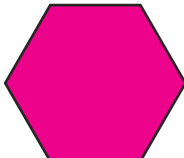
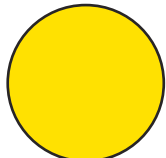


# Clue 2: Match the Shape



Match each description below to the correct shape. Then, rearrange the clue words below each matched shape to make a sentence, spelling out the next clue.

This shape only has obtuse angles and has 6 lines of symmetry.	This shape has 2 sets of parallel lines and the interior angles total $360^\circ$ .	This shape has 8 vertices, 12 edges and 6 square faces.
This shape has 5 faces, only 1 of which is not triangular.	This shape only has acute angles (2 of which are the same) and has 1 line of symmetry.	This shape has only 2 triangular faces.

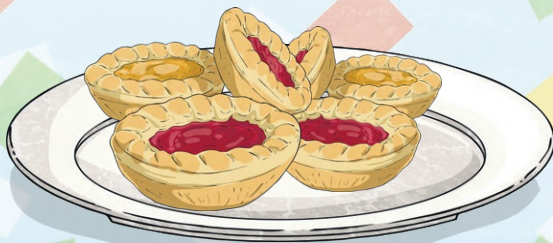
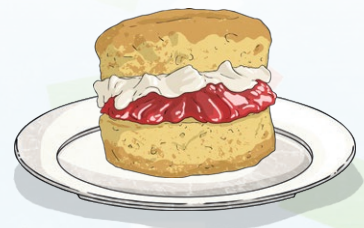
 mystery	 hazel	 eyes	 green
 have	 not	 has	 blue
 brown	 the	 baker	 does

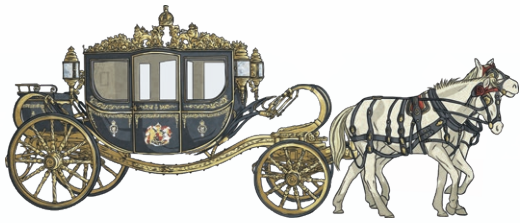
Clue 2: \_\_\_\_\_.

# Clue 3: Measurement Mysteries

Here are a range of questions all relating to measurements. Answer the questions and match the numerical part of the answer to a letter using the table below. This will spell out clue number 3 and help you get one step closer to finding the mystery baker.

I	V	M	T	O	B	D	C	F	A
900	3400	10	84.50	30	600	37	83	145	81
H	L	E	Z	S	K	N	R	U	Y
700	8	85.50	650	28	7.6	150	27	76	38





### Clue 3: Measurement Mysteries



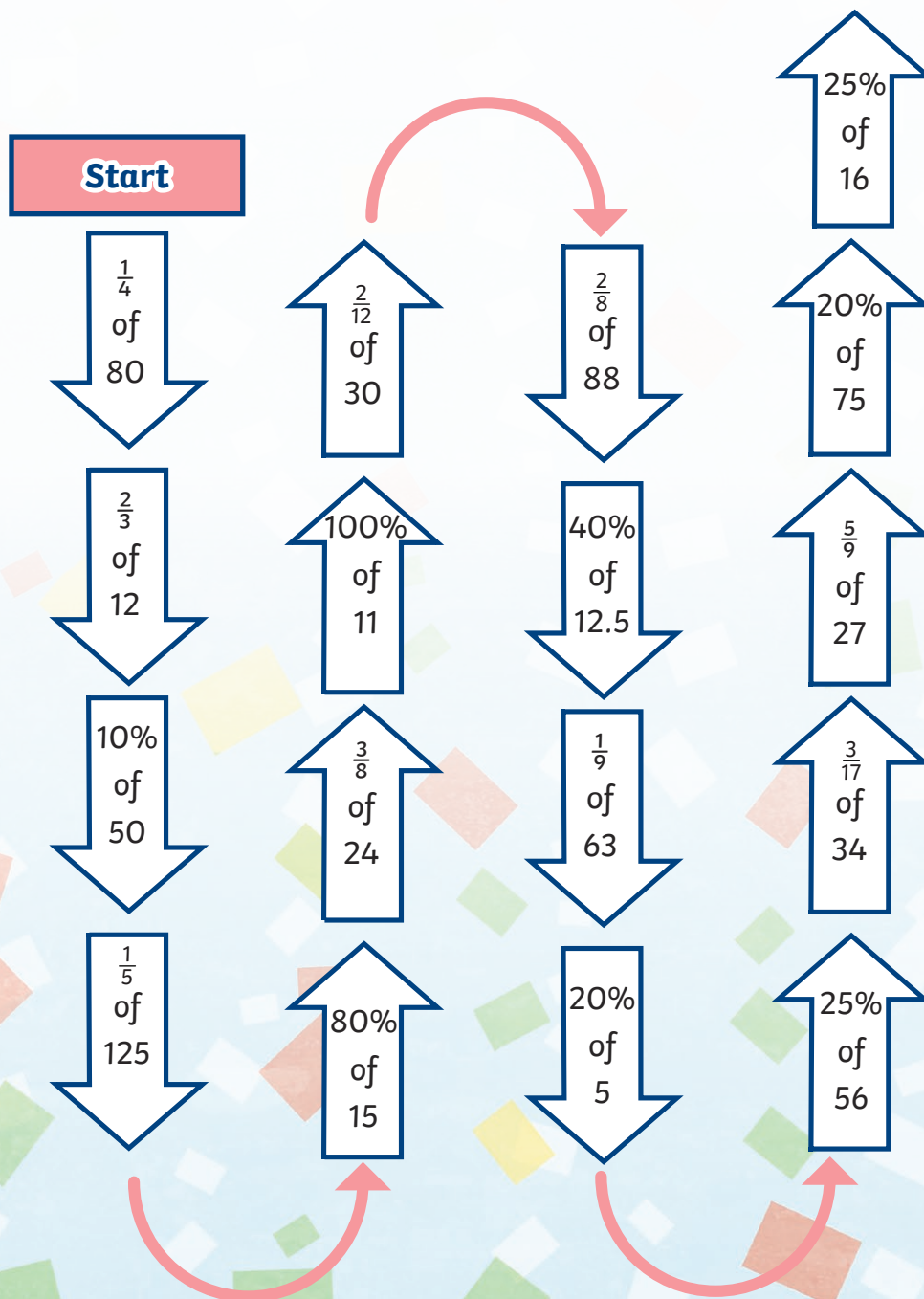
1. 56 days make how many weeks?
2. The Royal Family's dog has had puppies. Each puppy weighs 2 pounds. Approximately how much does each puppy weigh in grams?
3. How much is 3.4 litres in millimetres?
4. An order is being placed for souvenirs. Fridge magnets cost 38p each. How much will an order of 225 magnets cost?
5. How many 20p coins are there in £5.60?
6. If one side of an equilateral triangle is 300mm long, what is the perimeter of the shape?
7. How many minutes are in  $2\frac{1}{2}$  hours?
8. A new rose garden is being constructed at Windsor Castle. It will be 45m long and 20m wide. What will the area of the garden be?
9. A sunflower has grown to 1.5 metres tall. How tall is this in cm?
10. 5 people share 186 pound coins between them and give the remainder to charity. How much does each person get?
11. 4 members of the Royal Family are enjoying some afternoon tea. A teapot has a capacity of 2.3 litres. Each teacup can hold 350ml. How much tea will be left in the teapot once each cup is filled?
12. Princess Charlotte's birthday is on 2<sup>nd</sup> May and Prince George's birthday is on 22<sup>nd</sup> July. How many days are there between the siblings' birthdays?



**Clue 3:** The mystery baker \_\_\_\_\_.

# Clue 4: Fractions and Percentages Path

Follow the path and solve each question as you go. Each answer will give you a number. Use the numbers to spell out the answer to the clue using the code 1 = A, 2 = B, 3 = C etc.



Clue 4: \_\_\_\_\_.

# Clue 5: Solve the Sudoku

Solve the sudoku and add up the numbers in the shaded grey cells. Match the answer to the clue box below.

In order to solve the sudoku, each column, row and box needs to contain the numbers 1 to 6. Each number can only be used once in each column, row and box.

		4	2	3	
	2			1	
2					3
3			4		1
	5			4	
	3	6	1		

11	12	10
The mystery baker's favourite music is <b>pop</b> .	The mystery baker's favourite music is <b>hip-hop</b> .	The mystery baker's favourite music is <b>rock</b> .

**Clue 5:** The mystery baker's favourite music is \_\_\_\_\_.

The mystery baker is \_\_\_\_\_.

# The Mystery of the Royal Cake

## Maths Mystery Game

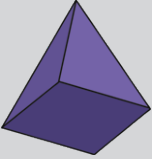
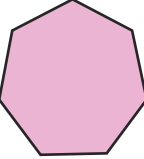
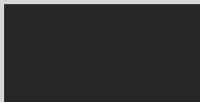
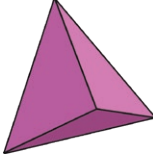

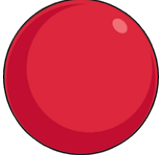

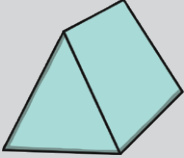
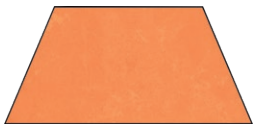
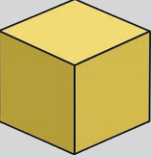
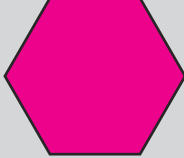
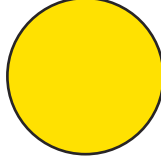
### Answers

Clue 1: True or False?

	True	False
$8 \times 4 = 12 \times 3$		✓
$63 = 9 \times 7$	✓	
$77 \div 11 = 35 \div 5$	✓	
$6 \times 6 = 12$		✓
$144 \div 12 = 11$		✓
$56 \div 7 = 8 \times 0$		✓
$3 \times 4 = 36 \div 3$	✓	
$5 \times 3 \times 2 = 25$		✓
$45 \div 9 = 5$	✓	
$64 \div 8 = 16 \div 2$	✓	
$1.2 \times 5 = 0.2 \times 3$		✓
$96 \div 4 = 23$		✓
$384 \div 12 = 32$	✓	
$17 \times 15 = 51 \times 5$	✓	
$3.4 \times 40 = 126$		✓

Clue 1: The mystery baker is **over 40**.

## Clue 2: Match the Shape

 <b>mystery</b>	 <b>hazel</b>	 <b>eyes</b>	 <b>green</b>
 <b>have</b>	 <b>not</b>	 <b>has</b>	 <b>blue</b>
 <b>brown</b>	 <b>the</b>	 <b>baker</b>	 <b>does</b>

**Clue 2: The mystery baker has blue eyes.**

## Clue 3: Measurement Mysteries

- |               |                          |
|---------------|--------------------------|
| 1. 8 - L      | 7. 150 - N               |
| 2. 900g - I   | 8. 900m <sup>2</sup> - I |
| 3. 3400ml - V | 9. 150cm - N             |
| 4. £85.50 - E | 10. £37 - D              |
| 5. 28 - S     | 11. 900ml - I            |
| 6. 900mm - I  | 12. 81 days - A          |

**Clue 3: The mystery baker lives in India.**

# Clue 4: Fractions and Percentages Path

**Start**

$\frac{1}{4}$   
of  
80  
**20 = T**

**5 = E**  
 $\frac{2}{12}$   
of  
30

$\frac{2}{8}$   
of  
88  
**22 = V**

**4 = D**  
25%  
of  
16

**15 = O**  
20%  
of  
75

$\frac{2}{3}$   
of  
12  
**8 = H**

**11 = K**  
100%  
of  
11

40%  
of  
12.5  
**5 = E**

**15 = O**  
 $\frac{5}{9}$   
of  
27

10%  
of  
50  
**5 = E**

**9 = I**  
 $\frac{3}{8}$   
of  
24

$\frac{1}{9}$   
of  
63  
**7 = G**

**6 = F**  
 $\frac{3}{17}$   
of  
34

$\frac{1}{5}$   
of  
125  
**25 = Y**

**12 = L**  
80%  
of  
15

20%  
of  
5  
**1 = A**

**14 = N**  
25%  
of  
56

**Clue 4: They like vegan food.**

## Clue 5: Solve the Sudoku

<b>6</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>3</b>	<b>5</b>
<b>5</b>	<b>2</b>	<b>3</b>	<b>6</b>	<b>1</b>	<b>4</b>
<b>2</b>	<b>4</b>	<b>1</b>	<b>5</b>	<b>6</b>	<b>3</b>
<b>3</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>2</b>	<b>1</b>
<b>1</b>	<b>5</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>6</b>
<b>4</b>	<b>3</b>	<b>6</b>	<b>1</b>	<b>5</b>	<b>2</b>

<b>11</b>	<b>12</b>	<b>10</b>
The mystery baker's favourite music is pop.	The mystery baker's favourite music is hip-hop.	The mystery baker's favourite music is rock.

**Clue 5:** The mystery baker's favourite music is **pop**.

The mystery baker is **Robin Regal**.