

**1** The product of two numbers is 51. The difference between two numbers is 14.

What is the larger number?

**2** Mr Jessop decides to replace his kitchen flooring. The room measures 8m by 2m. He finds some tiles that measure 1m x 1m and come in boxes of 6.

How many boxes will Mr. Jessop need to buy?

**3** Alfie is reading a 350 page book and so far has read four-fifths of the total pages.

How many pages until Alfie finishes his book?

**4** Dan is going to cycle from Edinburgh to London in aid of charity. The total distance is 400 miles and Dan hopes to average 25 miles each day.

How many days will Dan's trip take?

**5** A florist is selling Mother's Day bouquets. Each bouquet contains exactly 18 flowers. How many bouquets can be made from 198 flowers?

**6** There are a total of 80 children at a small village school.

If 55% of the children are girls, how many children are boys?

**7** Bridget and Grace have a total of 40 books between them. Grace has three times as many books as Bridget.

How many books does Grace have?

**8** On a pie chart, an angle of  $60^\circ$  represents 24 people.

How many people would be represented by an angle of  $180^\circ$ ?

**9** How old is Kevin if he is  $2\frac{1}{2}$  times as old as his 12 year old nephew?

<b>1</b>			<b>4</b>			<b>7</b>		
	[0]	[0]		[0]	[0]		[0]	[0]
	[1]	[1]		[1]	[1]		[1]	[1]
	[2]	[2]		[2]	[2]		[2]	[2]
	[3]	[3]		[3]	[3]		[3]	[3]
	[4]	[4]		[4]	[4]		[4]	[4]
	[5]	[5]		[5]	[5]		[5]	[5]
	[6]	[6]		[6]	[6]		[6]	[6]
	[7]	[7]		[7]	[7]		[7]	[7]
	[8]	[8]		[8]	[8]		[8]	[8]
	[9]	[9]		[9]	[9]		[9]	[9]

<b>2</b>			<b>5</b>			<b>8</b>		
	[0]	[0]		[0]	[0]		[0]	[0]
	[1]	[1]		[1]	[1]		[1]	[1]
	[2]	[2]		[2]	[2]		[2]	[2]
	[3]	[3]		[3]	[3]		[3]	[3]
	[4]	[4]		[4]	[4]		[4]	[4]
	[5]	[5]		[5]	[5]		[5]	[5]
	[6]	[6]		[6]	[6]		[6]	[6]
	[7]	[7]		[7]	[7]		[7]	[7]
	[8]	[8]		[8]	[8]		[8]	[8]
	[9]	[9]		[9]	[9]		[9]	[9]

<b>3</b>			<b>6</b>			<b>9</b>		
	[0]	[0]		[0]	[0]		[0]	[0]
	[1]	[1]		[1]	[1]		[1]	[1]
	[2]	[2]		[2]	[2]		[2]	[2]
	[3]	[3]		[3]	[3]		[3]	[3]
	[4]	[4]		[4]	[4]		[4]	[4]
	[5]	[5]		[5]	[5]		[5]	[5]
	[6]	[6]		[6]	[6]		[6]	[6]
	[7]	[7]		[7]	[7]		[7]	[7]
	[8]	[8]		[8]	[8]		[8]	[8]
	[9]	[9]		[9]	[9]		[9]	[9]

Lambir Hills National Park is probably the world's most complex and diverse forest ecosystem. In a total area of just 6,952 hectares, experts have found what appears to be the greatest level of plant biodiversity on the planet. It is not only plant life that is diverse and plentiful at Lambir - 288 different species of birds (at the last count), flying squirrels, wild pigs, gibbons, many different types of monkey, various species of deer, and untold insects and other invertebrates, all combine to create Lambir's rich biological kaleidoscope.



In 2010, scientists working in Lambir Hills National Park discovered a new species of fungus which is orange, full of holes and looks like a sea sponge. The mushroom is said to resemble the infamous SpongeBob SquarePants, so the new mushroom has been given the Latin name '*spongiforma squarepantsii*' by Dr. Dennis Desjardin, an eminent professor of ecology and evolution at the San Francisco State University.

Dr. Desjardin and his colleagues, Dr. Kabir Peay, a professor of plant pathology at the University of Minnesota, and Dr. Thomas Bruns, a professor of ecology and evolution at the University of California at Berkeley, co-discovered the new species.

The genus name, *Spongiforma*, refers to the close resemblance of the spherical fruit body to a sea sponge, whilst the specific name, *squarepantsii*, is the Latinisation of SpongeBob SquarePants.

The formal description has been published online in the science research journal *Mycologia* which states that the mushroom has a 'pleasant, fruity smell'.

Dr. Desjardin mentioned that the editors of *Mycologia* initially rejected the cartoon name as "too frivolous."

"But we insisted that although the science might be their business, we could name it whatever we liked," said Dr. Desjardin. "We need a little frivolity in this stodgy old science we love."

"When it's wet and moist and fresh, you can wring water out of it and it will quickly spring back to its original size," Dr. Desjardin said. Almost like a sponge. "Most mushrooms don't do that."

The surface of the fungus has deep ridges and folds resembling a brain. Further, when viewed under a microscope, the surface in the mushroom's interior resembles a "seafloor covered with tube sponges, reminiscent of the fictitious home of SpongeBob - Bikini Bottom".

As if its brilliant orange colour isn't flamboyant enough, the mushroom turns purple when sprinkled with a 3% potassium hydroxide solution.

There's only one other species known so far in the *Spongiforma* genus: *Spongiforma thailandica* can only be found in central Thailand and has a different colour and odour. *Spongiforma thailandica* is a grey coloured mushroom and smells strongly of coal-tar. One thing's for certain—there are more fungi out there. Only ten percent of Earth's fungi species have been found, and there may well be up to five million still unknown, according to the university.

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**1** How many scientists were involved in the discovery of *spongiforma squarepantsii*?

- A Four.
  - B Three.
  - C Two.
  - D Just one.
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**2** Why did the research journal *Mycologia* originally refuse to recognise the name *spongiforma squarepantsii*?

- A Because they considered it to be too long.
  - B Because they were worried about copyright issues with the cartoon's producers.
  - C Because they considered it to be flippant and silly.
  - D Because there was already a mushroom with that name.
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**3** In what way does the flesh of *spongiforma squarepantsii* change when sprayed with a solution of potassium hydroxide?

- A The flesh breaks down.
  - B It explodes.
  - C It changes colour.
  - D It emits a foul smelling liquid.
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**4** How many different species of birds are there at the Lambir Hills National Park?

- A Twenty four dozen.
  - B A dozen.
  - C In excess of 300.
  - D Thousands.
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**5** In which language is the formal name for *spongiforma squarepantsii*?

- A French.
- B Malaysian.
- C Latin.
- D Pilipino.

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**6** Which one of the following statements is **true**?

- A Sea sponges are naturally crescent shaped.
- B Dr. Desjardin does his research at the University of Minnesota.
- C The vast majority of species of fungi have been discovered.
- D Lambir Hills National Park is very likely the most intricate ecosystem on the planet?

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**7** Which characteristic makes *spongiforma squarepantsii* different to other mushrooms?

- A It is absorbent.
- B It is orange.
- C It is dappled.
- D It is highly poisonous.

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**8** Which one of the following statements is **not true**?

- A All insects are invertebrates.
  - B *Spongiforma squarepantsii* has an agreeable smell.
  - C *Spongiforma thailandica* is a greyish colour.
  - D SpongeBob SquarePants lives at the Krusty Krab.
-

A	B	C	D	E	F	G	H	I	J
$\frac{3}{4}$	$\frac{2}{3}$	$\frac{1}{3}$	$\frac{1}{9}$	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{5}$	$\frac{1}{6}$	$\frac{2}{10}$

The table below shows the details for twelve children all in the same class:

Name	Birthday	Eye colour	Hair colour	Height	Glasses	Shoe Size
Ellie	28th Jan	blue	brown	142cm	No	2
Max	7th July	blue	brown	141cm	Yes	4
Poppy	5th Sep	green	blonde	144cm	No	3
Nathan	7th Sep	brown	ginger	139cm	Yes	4
Sam	25th Dec	green	blond	143cm	Yes	5
Lucy	14th Feb	blue	brown	138cm	No	2
Kenny	31st Aug	brown	black	135cm	Yes	4
Sophie	17th Mar	blue	brown	148cm	Yes	3
Archie	10th Sep	blue	blond	146cm	Yes	4
Amy	1st April	green	brown	141cm	Yes	4
Ben	12th May	brown	blond	143cm	Yes	5
Connie	14th Nov	blue	brown	147cm	Yes	4

1 What fraction of the children have brown hair?

2 What fraction of the children wear size 3 and smaller shoes?

3 What fraction of the children wear glasses?

4 What fraction of the children were born in September and are also taller than 140cm?

# Answers

## Maths 2

1	17
2	03
3	70
4	16
5	11
6	36
7	30
8	72
9	30

## Comprehension

1	B
2	C
3	C
4	A
5	C
6	D
7	A
8	D

## Maths 3

1	F
2	C
3	A
4	I

## Cloze

1	G	first
2	C	decimated
3	I	soon
4	A	combination
5	D	public's
6	F	early
7	J	famous
8	E	spiral
9	I	greatly
10	B	pests
11	J	afflicted
12	C	effort
13	G	typically
14	F	essential
15	H	plucked
16	B	target
17	E	coppery
18	D	graded
19	G	production
20	I	incredibly