Primary Mathematics Challenge

12 – 16 November 2018



Name	Class
	<i>y</i>
Please do not start to answer questions until you are told to do so. When	n you do turn over the
page you will have 45 minutes for the challenge.	P_{\bullet}

You must do all the work on your own. You should use rough paper for this.

For questions 1 - 20, write down A B C D or E in the space for each answer. For questions 21 - 25, write down your answer in the space. Each correct answer gains one mark.

Good Luck. Enjoy the challenge!

Practice Questions

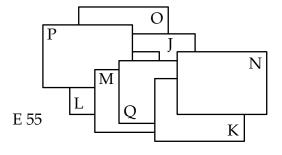
P1 Which of the numbers below is a multiple of 5?

A 51

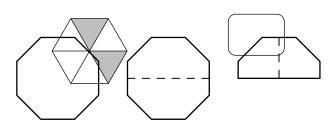
B 52

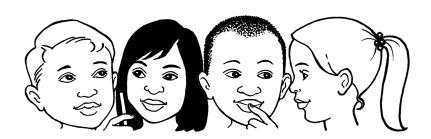
C 53

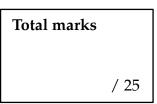
D 54



P2 What fraction of this hexagon is shaded?







MATHEMATICAL ASSOCIATION



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1.	1. Three children went home from a party with four balloons each, and four children went home with three balloons each.					
	How many ballo	oons is that alt	together?			
	A 3	B 4	C 12	D 24	E 36	
2.	How many gran A 0.4 grams D 400 grams	B 4gr		l jam jar? C 40 grams	JAM 0.4 kg	
3.	In one of the five Which word? A ONION	e words belov B BISON	v, every letter h	nas rotational sym	imetry. E CHINO	
4.	Historians say th How many year A 790 B	s ago was tha	-			
5.	Which of these i A the length of the width of the height of the distance E the width of the wid	of a big toe of one of the p of a door e across a spo	ages of this qu			
6.	The graph show grandfather's ho turn his grandfa to a bench to real How far did he A 800 m D 1400 m	ouse. On the vither's cat and d his comic.	vay he had to i l later went bac	800 m 600 m 400 m 200 m	time 4 p.m.	

7.	7. A match starts at 7.45 p.m. and has two halves of 45 minutes each. The half-time break lasts for 15 minutes and the referee adds on an extra three minutes at the end of each half.					
	At what time does the match finish?					
	A 8.30 p.m. B 9.30 p.m. C 9.21 p.m. D 9.33 p.m. E 9.36 p.m.					
8.	Michaela meant to work out the answer to $50.45-0.4$ on her calculator, but she made a mistake and got the answer 20.18					
	Which of these is most likely to have been her mistake? A pressing + instead of -					
	B pressing 40 instead of 0.4 C pressing × instead of — D missing out one of the decimal points					
	E pressing ÷ instead of –					
9.	The sum of the first 5 odd positive numbers is 25.					
	What is the sum of the first 5 even positive numbers?					
	A 30 B 35 C 40 D 45 E 50					
10.	Mr Fussy wants to buy a new house but he does not want a house with the digit 4 in the door number!					
	The new houses are numbered 1 to 100 How many houses can Mr Fussy choose from?					
	A 19 B 20 C 80 D 81 E 90					
11.	Sam is looking at this block of cubes from one of the five directions shown. He sees the view below: (E) from back (D)					
	$(A) \xrightarrow{\text{from}} (C)$					
	From which direction is he viewing the block? from front (B)					
	A from the left B from the front C from the right D from the back E from above					

•			. There are roughly three million people who live in Wales. Nearly six hundred thousand of them speak Welsh. Approximately what percentage of people living in Wales speak Welsh?						
Approxima	tely what p	ercentage c							
A 10%	-	· ·	C 30%	· ·	-				
all in £5 not	es.								
How much	money did	Jo get awa	y with?		Jan Jan				
A £13	B £25	C £35	D £50	E £87		६वे ६४			
The block is	s cut into 4 b	ricks, each		en cut into 6	planks and t	here are			
How many	fish fingers	does each	block of co	od make?					
A 14	В 16	•	C 24	D 72	E 9	96			
5. Because she has square false teeth, my wife makes square bites (with sides of 3 cm) when she eats toast.									
slice of toast that measures $12 \text{ cm} \times 12 \text{ cm}$?									
		_	C 13	2 cm ²	3	3 cm			
, ,	1		cake for £	3.75, while F	reddy buys a	a cup of			
Each cake costs the same. How much is a cup of coffee?									
A £1	B £1	.25	C £1.50	D £2	Ε£	2.50			
The diagra	m shows a	pentagon	with its	five diagona	lls				
How many diagonals can be drawn on a regular hexagon?									
A 8	B 9	C 10	D 11	E 12		\times			
	Mo and Jo rall in £5 not The amount How much A £13 Fish fingers The block is 4 fingers in How many A 14 Because she square bites What area is slice of toas A 36 cm ² D 140 cm Teddy buys coffee and 2 Each cake cake cake cake cake cake cake cake	Mo and Jo robbed a bar all in £5 notes. The amount Mo ran off How much money did A £13 B £25 Fish fingers are made for the block is cut into 4 £ 4 fingers in each plank. How many fish fingers A 14 B 16 Because she has squar square bites (with sides What area is left after sistlice of toast that measure A 36 cm² B D 140 cm² E Teddy buys a cup of confee and 2 cakes for £ Each cake costs the sam A £1 B £1 The diagram shows a drawn in. How many diagonals of	Mo and Jo robbed a bank and stole all in £5 notes. The amount Mo ran off with was a How much money did Jo get awa A £13 B £25 C £35 Fish fingers are made from a block the block is cut into 4 bricks, each 4 fingers in each plank. How many fish fingers does each A 14 B 16 Because she has square false teet square bites (with sides of 3 cm) what area is left after she takes for slice of toast that measures 12 cm A 36 cm² B 108 cm² D 140 cm² E 144 cm² Teddy buys a cup of coffee and a coffee and 2 cakes for £6.25. Each cake costs the same. How many diagonals can be drawn in. How many diagonals can be drawn.	Mo and Jo robbed a bank and stole £100 betwall in £5 notes. The amount Mo ran off with was a multiple How much money did Jo get away with? A £13 B £25 C £35 D £50 Fish fingers are made from a block of cod. The block is cut into 4 bricks, each brick is th 4 fingers in each plank. How many fish fingers does each block of cod. A 14 B 16 C 24 Because she has square false teeth, my wif square bites (with sides of 3 cm) when she each what area is left after she takes four bites in slice of toast that measures 12 cm × 12 cm? A 36 cm² B 108 cm² C 132 D 140 cm² E 144 cm² Teddy buys a cup of coffee and a cake for £ coffee and 2 cakes for £6.25. Each cake costs the same. How much is a cut A £1 B £1.25 C £1.50 The diagram shows a pentagon with its drawn in. How many diagonals can be drawn on a reg	Mo and Jo robbed a bank and stole £100 between them, all in £5 notes. The amount Mo ran off with was a multiple of £13. How much money did Jo get away with? A £13 B £25 C £35 D £50 E £87 Fish fingers are made from a block of cod. The block is cut into 4 bricks, each brick is then cut into 6 £4 fingers in each plank. How many fish fingers does each block of cod make? A 14 B 16 C 24 D 72 Because she has square false teeth, my wife makes square bites (with sides of 3 cm) when she eats toast. What area is left after she takes four bites in a square slice of toast that measures 12 cm × 12 cm? A 36 cm² B 108 cm² C 132 cm² D 140 cm² E 144 cm² Teddy buys a cup of coffee and a cake for £3.75, while Facoffee and 2 cakes for £6.25. Each cake costs the same. How much is a cup of coffee? A £1 B £1.25 C £1.50 D £2 The diagram shows a pentagon with its five diagonal drawn in. How many diagonals can be drawn on a regular hexagon	Mo and Jo robbed a bank and stole £100 between them, all in £5 notes. The amount Mo ran off with was a multiple of £13. How much money did Jo get away with? A £13 B £25 C £35 D £50 E £87 Fish fingers are made from a block of cod. The block is cut into 4 bricks, each brick is then cut into 6 planks and £4 fingers in each plank. How many fish fingers does each block of cod make? A 14 B 16 C 24 D 72 E 9 Because she has square false teeth, my wife makes square bites (with sides of 3 cm) when she eats toast. What area is left after she takes four bites in a square slice of toast that measures 12 cm × 12 cm? A 36 cm² B 108 cm² C 132 cm² D 140 cm² E 144 cm² Teddy buys a cup of coffee and a cake for £3.75, while Freddy buys a coffee and 2 cakes for £6.25. Each cake costs the same. How much is a cup of coffee? A £1 B £1.25 C £1.50 D £2 E £6. The diagram shows a pentagon with its five diagonals drawn in. How many diagonals can be drawn on a regular hexagon?	Mo and Jo robbed a bank and stole £100 between them, all in £5 notes. The amount Mo ran off with was a multiple of £13. How much money did Jo get away with? A £13 B £25 C £35 D £50 E £87 Fish fingers are made from a block of cod. The block is cut into 4 bricks, each brick is then cut into 6 planks and there are 4 fingers in each plank. How many fish fingers does each block of cod make? A 14 B 16 C 24 D 72 E 96 Because she has square false teeth, my wife makes square bites (with sides of 3 cm) when she eats toast. What area is left after she takes four bites in a square slice of toast that measures 12 cm × 12 cm? A 36 cm² B 108 cm² C 132 cm² 3 cm 12 cm Teddy buys a cup of coffee and a cake for £3.75, while Freddy buys a cup of coffee and 2 cakes for £6.25. Each cake costs the same. How much is a cup of coffee? A £1 B £1.25 C £1.50 D £2 E £2.50 The diagram shows a pentagon with its five diagonals drawn in. How many diagonals can be drawn on a regular hexagon?		

In the Smellie household, Mum changes her socks every day, Dad every other day, Tammy every three days and Timmy every Wednesday. At the start of this week, Monday 12 November, Mum, Dad and Tammy all changed their socks.					
A 21 November D 6 December	B 24 November E 12 December	C 28 No	vember		
sides of a triangle.		f the			
What is the total of the s A 90° B 150° E 360°	G	70°			
and half of whatever is l How many days will it t which has 444 pages?	eft each evening. Take Paige to read a boo	ok	E a week		
Anna thinks of a number	er, divides it by 5, adds				
The areas of three of the Both the bedroom and	rooms are shown. I living room are	Kitchen Living Room	Bedroom 18 m ² Study		
	every day, Dad every off days and Timmy every Mays and Timmy every Mays and Tammy What is the next date a change their socks toget. A 21 November D 6 December The diagram shows a so sides of a triangle. What is the total of the socks and half of whatever is land half	every day, Dad every other day, Tammy every to days and Timmy every Wednesday. At the start of this week, Monday 12 Novem Mum, Dad and Tammy all changed their socks. What is the next date all four of the Smellies change their socks together? A 21 November B 24 November D 6 December E 12 December. The diagram shows a square touching three or sides of a triangle. What is the total of the shaded angles? A 90° B 150° C 180° D 27 E 360° Paige Turner reads twenty pages every morning and half of whatever is left each evening. How many days will it take Paige to read a bow which has 444 pages? A 3 days B 4 days C 5 days Anna thinks of a number, divides it by 5, adds number she first thought of.	every day, Dad every other day, Tammy every three days and Timmy every Wednesday. At the start of this week, Monday 12 November, Mum, Dad and Tammy all changed their socks. What is the next date all four of the Smellies will change their socks together? A 21 November B 24 November C 28 No D 6 December E 12 December The diagram shows a square touching three of the sides of a triangle. What is the total of the shaded angles? A 90° B 150° C 180° D 270° E 360° Paige Turner reads twenty pages every morning and half of whatever is left each evening. How many days will it take Paige to read a book which has 444 pages? A 3 days B 4 days C 5 days D 6 days Anna thinks of a number, divides it by 5, adds 20 to it and end number she first thought of. What was that number? Kitchen Etiles will three days and Timmy every th	every day, Dad every other day, Tammy every three days and Timmy every Wednesday. At the start of this week, Monday 12 November, Mum, Dad and Tammy all changed their socks. What is the next date all four of the Smellies will change their socks together? A 21 November B 24 November C 28 November D 6 December E 12 December The diagram shows a square touching three of the sides of a triangle. What is the total of the shaded angles? A 90° B 150° C 180° D 270° E 360° Paige Turner reads twenty pages every morning and half of whatever is left each evening. How many days will it take Paige to read a book which has 444 pages? A 3 days B 4 days C 5 days D 6 days E a week Anna thinks of a number, divides it by 5, adds 20 to it and ends up with the number she first thought of. What was that number? The diagram shows a floor plan of a house. The areas of three of the rooms are shown. Both the bedroom and living room are twice as long as they are wide.	

23.	A <i>palindrome</i> , such as 707 or 2552, is a number that remains when read backwards. What is the largest six-digit palindrome which is a multiple				
24.	24. On a ferry, the total number of cars, bikes and lorries is an even number and is less than 100. The number of cars is one third more than the number of bikes. The number of bikes is one quarter more than the number of lorries. How many cars, bikes and lorries are there on the ferry?				
25.	Eight friends are sitting around a circular table at Abbie's birthday party. Abbie has only 3 party-poppers, so she wants to give them to three of her friends, so that no two friends sitting next to each other both get a party-popper.				
	How many ways are there in which she can do this?				