PRIMARY MATHEMATICS CHALLENGE

11th - 22nd November 2024

NAME ..... **CLASS** .....

Please do not start to answer questions until you are told to do so.
When you do turn over the page you will have 45 minutes for the challenge.
You must do all the work on your own.
You may use rough paper.
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 1

What is the value of 5 + 50 + 500?

A 5 **B** 55 **C** 555 **D** 5555 **E** 55555

Practice 2

How many spots has a six-sided dice?



A 19 **B** 20 **C** 21 **D** 22 **E** 23

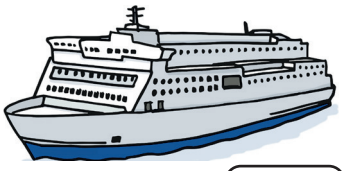
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Supporting mathematics in education

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TOTAL MARKS

/25

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1. The overnight boat from Birkenhead to Belfast leaves at 10.30 pm and takes 8 hours. What time does it arrive in Belfast?

A 4.30 am **B** 6.30 am **C** 8.30 am **D** 10.30 am **E** 12.30 pm

2. My dog Crunch has lived for 104 weeks. How old is he?

A 6 months **B** 1 year **C** 2 years **D** 3 years **E** 4 years

3. The temperature in Geneva this morning was -5°C.
It then increased by 2°C. What is the temperature now?



A -7°C **B** -5°C **C** -3°C **D** -2°C **E** 0°C

4. On an expedition, Sultana walks 1 mile north-east. She then turns 90° anticlockwise and walks another mile. She then turns 45° anticlockwise and sets off to walk a third mile. In which direction is she now walking?

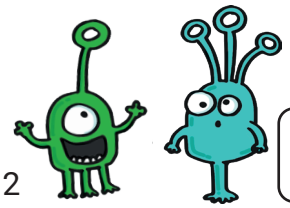
A West **B** North-West **C** North **D** South-West **E** South

5. This shape has been cut from a 3cm x 3cm x 3cm cube.
Four pieces, each 1cm x 1cm x 3cm, have been removed.
What is the volume of the shape now in cubic centimetres?



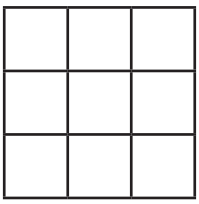
A 9 **B** 12 **C** 15 **D** 24 **E** 27

6. Tripodders each have one antenna, two arms and three legs.
Hoppers each have three antennae, two arms and one leg.
How many legs will 3 Tripodders and 3 Hoppers have in total?



A 4 **B** 6 **C** 8 **D** 10 **E** 12

7. Tom draws a grid of 9 small squares, as shown in the diagram.
It has four horizontal lines and four vertical lines. Next, Tom draws a similar grid of small squares using five horizontal lines and five vertical lines. How many small squares are there in this new grid?



A 16 **B** 25 **C** 36 **D** 49 **E** 64

8. What is the answer that this number machine always gives you?



A 1 **B** 2 **C** 3 **D** 4 **E** 5

9. I divide 265 by a certain number. The answer is 11 with a remainder of 12.
What is the number I divided by?

A 19 **B** 21 **C** 23 **D** 24 **E** 27

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10. The King penguins at the Silly Islands zoo love to play 'Pyramids', where they stand on top of each other to see how high they can reach. Each row always has one fewer penguin than the row below it, as in the picture.
Each King Penguin is 100 cm tall.
Greta the giraffe is 5 m tall.
How many King Penguins would be needed to form a pyramid, which has the same height as Greta?



A 5 **B** 6 **C** 8 **D** 10 **E** 15

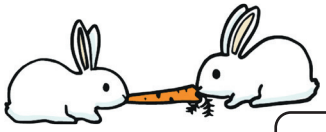
11. Patrick wants to choose a four-digit code for his bicycle lock using each of the digits 2, 3, 5 and 7 once and once only. How many of the possible codes start with the digit 2?

A 4 **B** 5 **C** 6 **D** 7 **E** 8

12. Six runners in a club have won a mean of 5 races.
A seventh runner joins the club and the mean number of races won is now 6.
How many races has the seventh runner won?

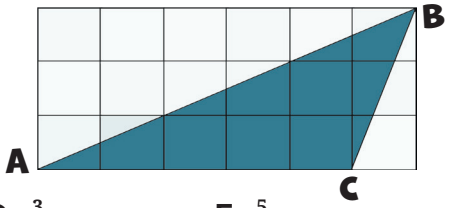
A 7 **B** 12 **C** 20 **D** 30 **E** 42

13. Two rabbits are eating a carrot which is 20 cm long. One eats from one end at 2 mm per second. The other eats from the other end at 3 mm per second. How long is it before they finish the carrot?



A 20 secs **B** 30 secs **C** 40 secs **D** 50 secs **E** 1 min

14. What fraction of the rectangle is shaded?



A $\frac{1}{6}$ **B** $\frac{5}{12}$ **C** $\frac{7}{12}$ **D** $\frac{3}{4}$ **E** $\frac{5}{6}$

15. Beth Shriever is cycling at 20 mph.
How long will it take her to cycle two miles?



A 30 secs **B** 2 mins **C** 3 mins **D** 6 mins **E** 20 mins

16. The perimeter of a rectangle is 30 cm. The longer sides are 5cm longer than the shorter sides.
What is the area of the rectangle?

A 150 cm² **B** 50 cm² **C** 35 cm² **D** 30 cm² **E** 25 cm²

17. In a Maths Challenge, there are 48 marks. Jamie scored 50% of the total marks.
Mimi scored 3/4 of the total marks. Vlad scored all but 6 of the total marks
Sam scored 11/12 of the total marks. Dipesh scored 45 marks.
Who scored the most marks?

A Jamie **B** Mimi **C** Vlad **D** Sam **E** Dipesh

18. Henry Hedgehog eats 4 slugs for every 3 snails.
One week he ate 28 slugs and snails altogether.
How many slugs did he eat?



A 4 **B** 8 **C** 12 **D** 16 **E** 20

19. There are 40 tourists at Salvo's Café. They all order either a hot chocolate or a panini or both. Salvo takes 27 orders for a hot chocolate and 30 orders for a panini.
How many tourists ordered a panini but not a hot chocolate?



A 10 **B** 13 **C** 17 **D** 40 **E** 57

20. Doctor Rupert Fuzzy needs to label the coat hooks in the cloakroom with the numbers 1-100.
He has to buy the digits separately.
How many of the digit '1' does he need to buy?

A 18 **B** 19 **C** 20 **D** 21 **E** 22

21. Errol and Lauren keep bees. In Errol's hive there are 45,000 bees, to the nearest thousand bees. In Lauren's hive there are 56,000 bees, to the nearest thousand bees. To the nearest thousand, what is the greatest possible difference in the number of bees in the two hives?



22. Gureeta made a 3 x 3 grid as shown and put each of the numbers 1-9 in the cells.
She then multiplied the numbers in each row and put the product next to the row.
She also multiplied the numbers in each column and put the product under each column.
Which number did Gureeta put in the cell marked X?

			35
	X		48
			216
27	40	336	

23. Xanthe, Yoko and Zara are running around a circular track.
They all start together.
Speedy Xanthe completes 8 laps in the same time that Yoko runs 4 laps and Zara runs 3 laps.
How many laps has Xanthe run the first time that they reach the start line together?



24. In a school election, 80% of pupils voted.
Of these, 60% voted for the winner.
What percentage of the pupils in the school voted for the winner?

25. Three sisters are given £58 to share.
Each receives as many pounds as their age.
Alice is the youngest, Bethany is twice as old as Alice and Catherine is 3 years older than Bethany. How much money does Alice receive?

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