

The Wellington School Maths Challenge

25 November 2023



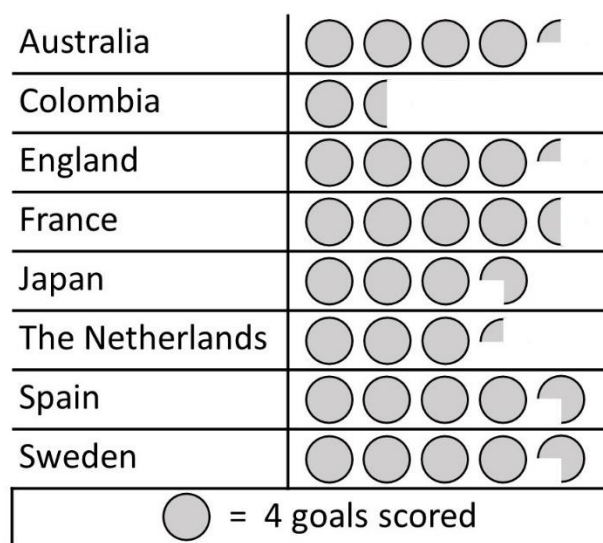
Q1. Which of these calculations gives the answer 2023?

- A.** $26 \times 3 \times 26$ **B.** $17 \times 7 \times 17$ **C.** $15 \times 9 \times 15$ **D.** $13 \times 12 \times 13$ **E.** $12 \times 14 \times 12$

Q2. Cookies cost 99p each and doughnuts cost £1.15 each.
Mike has £20. He buys twelve cookies and four doughnuts.
How much money does Mike have left?

- A.** £3.52 **B.** £3.62 **C.** £3.82 **D.** £4.62 **E.** £6.76

Q3. The pictogram gives information about the total number of goals scored by different countries during the 2023 Women's Football World Cup.



How many more goals did Sweden score than Colombia?

- A.** 10 **B.** 11 **C.** 12 **D.** 13 **E.** 14

Q4. Cora, Dylan, Matthew and Rowan are playing a game.
In each round, first place scores 4 points, second place scores 3 points, third place scores 2 points and fourth place scores 1 point.
After three rounds, Cora has 11 points, Dylan has 9 points and Matthew has 5 points.
How many points does Rowan have?

- A.** 3 **B.** 4 **C.** 5 **D.** 6 **E.** 7

- Q5.** A strip of tape is 144cm long.
Nick cuts the tape into two pieces.
The longer piece is twice as long as the shorter piece.
How long is the shorter piece of tape?

A. 36cm **B.** 40cm **C.** 46cm **D.** 48cm **E.** 72cm

- Q6.** A sequence begins with the following numbers:

2 5 11 23 47 ...

What is the next number in the sequence?

A. 62 **B.** 71 **C.** 80 **D.** 95 **E.** 100

- Q7.** Which of the following words does not appear (forwards or backwards, vertically or horizontally) in the wordsearch grid below?

D	E	C	C	H	G	O	N
R	A	T	N	E	P	P	D
A	P	E	N	X	E	H	E
G	S	Q	U	A	R	E	C
O	C	T	A	G	O	N	A
N	X	G	C	O	N	O	G
N	O	G	A	N	O	N	O
N	P	E	N	A	G	O	N

A. PENTAGON **B.** HEXAGON **C.** OCTAGON **D.** NONAGON **E.** DECAGON

- Q8.** Lydia's sheep drink 200 litres of water per day.
Lydia has a tank containing 5400 litres of water.
How long will it take for the sheep to drink all of the water?

A. 2 weeks & 6 days **B.** 3 weeks **C.** 3 weeks & 3 days **D.** 3 weeks & 6 days **E.** 4 weeks

- Q9.** I arrive at school at 9am.
We get started straightaway with two 50-minute lessons.
We then go to break, which lasts 20 minutes, before another 50-minute lesson.
I spend the first half of my lunch break eating and the remaining 30 minutes playing with my friends.
After another three 45-minute lessons, it's time to go home.
At what time does my school day end?

A. 2.40pm **B.** 3.05pm **C.** 3.10pm **D.** 3.15pm **E.** 3.20pm

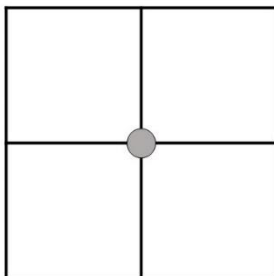
- Q10.** One litre of water has a mass of one kilogram.
How much does 5ml of water weigh?

A. 5mg **B.** 5g **C.** 50g **D.** 500g **E.** 5kg

- Q11.** Sam's bathroom floor is covered with 60 tiles.
Each tile is a square measuring 20cm by 20cm.
Sam replaces these tiles with new ones measuring 10cm by 10cm.
How many of the new tiles will Sam need to cover the floor?

A. 15 **B.** 30 **C.** 100 **D.** 120 **E.** 240

- Q12.** Four squares fit perfectly around a point like this:



How many equilateral triangles fit perfectly around a point?

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

Q13. Which of the following calculations gives the largest answer?

- A. $2 + 3 \times 4$
- B. $4 + 3^2$
- C. $12 \div 2^2$
- D. $12 - 2 \times 2$
- E. $10 - 2 + 7$

Q14. What is the value of $7x - 4y$ when $x = 8$ and $y = 9$?

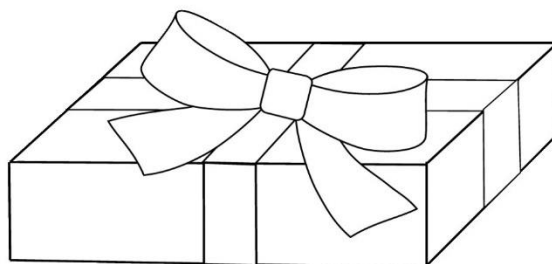
- | | | | | |
|-----------|-----------|-----------|-----------|-----------|
| A. | B. | C. | D. | E. |
| 12 | 20 | 24 | 29 | 31 |

Q15. Four of the following statements are true and one is false.
Which statement is false?

- A. $\frac{1}{2}$ of the multiples of 3 are divisible by 4
- B. $\frac{1}{3}$ of the multiples of 4 are divisible by 6
- C. $\frac{1}{4}$ of the multiples of 6 are divisible by 8
- D. $\frac{1}{5}$ of the multiples of 8 are divisible by 10
- E. $\frac{1}{6}$ of the multiples of 10 are divisible by 12

Q16. Tom is buying presents for his family.
This year, the presents cost 10% more than they did last year.
This year, the presents cost £110.
How much did the presents cost last year?

- | | | | | |
|-----------|-----------|-----------|-----------|-----------|
| A. | B. | C. | D. | E. |
| £99 | £100 | £105 | £120 | £121 |



Q17. Trudy has a bag containing red, green and blue counters.

$\frac{1}{3}$ of the counters are red.

$\frac{1}{4}$ of the counters are green.

15 of the counters are blue.

How many counters are in the bag?

- A.** 24 **B.** 30 **C.** 36 **D.** 48 **E.** 51

Q18. The table shows some information about the names given to boys born in Devon in the year 1800.

Name	Number of Boys
John	1155
William	1103
Thomas	518
James	460
Richard	288
George	253
Robert	219
Samuel	164
Henry	137
All other names	953

What percentage of boys born in Devon in 1800 were called John?

- A.** 16% **B.** 18% **C.** 20% **D.** 22% **E.** 24%

Q19. In a normal calendar year, which day lies exactly half-way between the 1st of January and the 31st of December?

- A.** 21st of June **B.** 28th of June **C.** 30th of June **D.** 1st of July **E.** 2nd of July

Q20. Which of these calculations gives the largest answer?

- A.** 3^7 **B.** 4^6 **C.** 5^5 **D.** 6^4 **E.** 7^3

The following five questions are not multiple choice.
Write your answers on the answer sheet in the spaces provided.

Q21. Peter writes down the first fifteen positive whole numbers in words.
 He then places them in alphabetical order.
 Which number is in the middle?

Q22. In the calculations below, each piece of fruit represents a number.
 What is the answer to the final calculation?

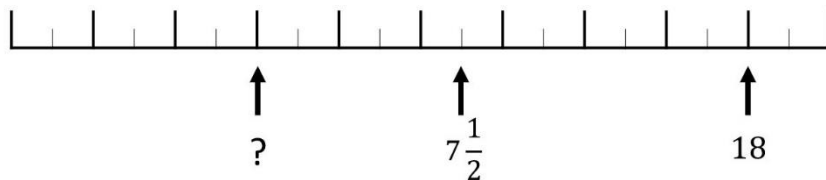
$$\text{Apple} + \text{Apple} + \text{Apple} = 30$$

$$\text{Apple} + \text{Pineapple} + \text{Pineapple} = 18$$

$$\text{Pineapple} - \text{Banana} = 2$$

$$\text{Apple} + \text{Pineapple} + \text{Banana} =$$

Q23. What number has been replaced by a question mark on this number line?



Q24. A one penny coin has a diameter of 20.3 millimetres.

Lauren has £100 made up entirely of one penny coins.

She places these coins in a long, straight line so that each coin just touches the coins beside in.

How long is Lauren's line of coins?

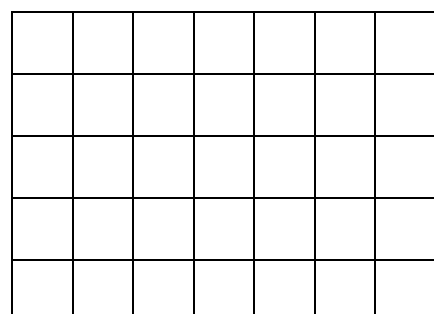
Give your answer in metres.



Q25. Rebecca has a grid of squares:

Rebecca draws two straight lines which split the grid into two squares and a rectangle.

What is the area of the rectangle?





Wellington School

Maths Challenge 2023

School Name _____

Pupils' Names _____

In the spaces provided, write the one letter you think answers each question.
One mark will be awarded for each correct answer.

1. |_| 6. |_| 11. |_| 16. |_|

2. |_| 7. |_| 12. |_| 17. |_|

3. |_| 8. |_| 13. |_| 18. |_|

4. |_| 9. |_| 14. |_| 19. |_|

5. |_| 10. |_| 15. |_| 20. |_|

For questions 21 to 25, write your answers in the spaces provided.

21. |_|_|_|_|

22. |_|_|_|_|

23. |_|_|_|_|

24. |_|_|_|_|

25. |_|_|_|_|



Maths Challenge 2023

Answers

Q1	B
Q2	A
Q3	D
Q4	C
Q5	D
Q6	D
Q7	A
Q8	D
Q9	B
Q10	B
Q11	E
Q12	C
Q13	E
Q14	B
Q15	A
Q16	B
Q17	C
Q18	D
Q19	E
Q20	B
Q21	1 or one
Q22	16
Q23	0
Q24	203 (metres)
Q25	6