

Junior Maths Challenge 2024

On Thursday 25th April some of our year 7 and 8 had a go at the UKMT Junior Maths Challenge.

For the year 7 pupils it was their first go at this and I hope that they will, having enjoyed it this year take part and have another go next year. I also hope that the success of those this year will also encourage more to take part.

The UK Mathematics Trust is a registered charity and it organises national mathematics competitions and other enrichment activities for UK secondary school pupils. Further information about the trust is available at www.ukmt.org.uk.

The Junior Maths challenge is a 60-minute, 25 multiple choice Challenge. It encourages mathematical reasoning, precision of thought and fluency to make students think. It is not about answering all the questions in the hour but about answering the ones that you think you can answer correctly.

Here is a selection of some of the questions at the start of the paper, how would you get on?

Which of the following could have a capacity of 10 litres?

- A An aeroplane B A bucket C A cup D A dustpan E An egg

Gill is 36 this year. In which year will her age next be a square?

- A 2025 B 2037 C 2047 D 2052 E 2060

A drink is made by mixing one part of cordial with four parts of water. What percentage of the drink is cordial?

- A 20 B 25 C 40 D 75 E 80

What is the value of $1 + 2 - 3 \times 4 \div 5$?

- A 0.2 B 0.3 C 0.4 D 0.5 E 0.6

Which of the following has the same remainder when divided by 3 as it does when divided by 4?

- A 7 B 11 C 17 D 19 E 25

All participants get a certificate of entry as all score on the challenge. Those that score in the top 50% of entrants of which there are over 700,000 every year receive either a Bronze, Silver or Gold award depending on their scores. The top 8-9% are awarded the Gold and with a qualifying score, the top couple of thousand are invited to take part in the Junior Kangaroo paper.

Dewi Thomas has for the 2nd year running been invited to take part in the Junior Kangaroo Paper. Well Done and good luck Dewi.

Results

Year 8

Gold

Dewi Thomas and Best in School,
Invitation to Kangaroo Junior Challenge.

Samuel Thomas

Silver

Katelyn Bebb

Bronze

Caitlin Jenkins

Tom Tremain

Imogen Brown

Dexter De Celis

Participation

Alexander Dickenson

Molly Marchant

Logan Mowforth

Isabela Norman

Eloise Wyatt

YEAR 7

Silver

Eden Wong and Best in Year

Alex Williams

Bronze

Umasuthan Mohanaraja

Sebastian Gregory-Pryke

Participation

Matthew Davies

Austin Habberley

Olivia Harvey

Jonas Joshy

Louis Morris

Spencer Phillips

Theo Richards

Owen Stephens

Max Unsworth

Casper Wren-Owens

Answers

- B** Of the options given, a cup, a dustpan and an egg would have capacities far smaller than 10 litres, while an aeroplane would have a capacity far greater than 10 litres. However, a bucket could well have a capacity of 10 litres.
- B** As 36 is the square of 6, Gill's age will next be a square when it is the square of 7, namely 49. That will be in thirteen years' time - in 2037.
- A** The cordial makes up one-fifth, that is 20%, of the drink.
- E** Multiplication and division take precedence over addition and subtraction.
Therefore $1 + 2 - 3 \times 4 \div 5 = 1 + 2 - (3 \times 4 \div 5) = 3 - 12 \div 5 = 3 - 2.4 = 0.6$.
- E** The lowest common multiple of 3 and 4 is 12 so any number which is 1 more than a multiple of 12 or 2 more than a multiple of 12 has the same remainder when divided by 3 as it does when divided by 4. Of the options given, only 25 satisfies that requirement.