MATHS CHALLENGE 8

RALPH:	Hello and here we are with another **Maths Challenge**! The quiz that gives you enough mental muscle to take on the mental maths masterminds - and win! A pencil and paper is all you need. So let me introduce you to Matrix: the one with all the right answers.
MATRIX:	Greetings, Maths Challengers!
RALPH:	Before we start Round 1, what mathematical word have you got for us today, Matrix?
MATRIX:	**Trapezium**. A 'trapezium' is a four-sided figure, which has just two sides parallel to each other.
RALPH:	OK, thanks for that and let's get going. Listen out carefully, Challengers, because question one is about a trapezium...

Round 1 - Beat the clock!

So here we go with Question 1. Total the number of sides on a trapezium and a triangle. How many sides altogether, if you add the number of sides of a trapezium to the number of sides of the triangle?

Second question. How many 2p coins in £1.50? How many 2p coins does it take to make £1.50?

Question 3. What is double 0.75? If you double 0.75 what does it come to?

Fourth question. How many centilitres in a litre? How many centilitres make up one litre?

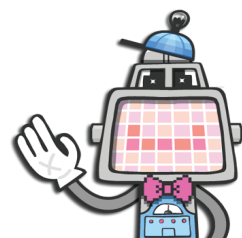Question number 5. What is the product of 2, 3 and 4? What is 2 x 3 x 4?

Question 6. How many 80p postcards can you buy for £4? If you had £4 how many 80p postcards could you buy with it?

Question 7. If 10 - 2W = 6, what is W? What is W when 10 - 2W = 6?

Question 8. What is 20% of £5? 20% of £5? What is it?

Ninth question. How many seconds in an hour? How many seconds are there in one hour?

Question 10. Multiply 50 and 80? What is 50 multiplied by 80?

Which is the last question in the round. Some difficult questions there. I bet even Matrix had to think about them! So let's find out the answers.

RALPH: Number 1.
MATRIX: Answer: 7.

RALPH: Number 2.
MATRIX: Answer: 75.

RALPH: Number 3.
MATRIX: Answer: 1.5.

RALPH: Number 4.
MATRIX: Answer: 100.

RALPH: Number 5.
MATRIX: Answer: 24.

RALPH: Number 6.
MATRIX: Answer: 5.

RALPH: Number 7.
MATRIX: Answer: 2.

RALPH: Number 8.
MATRIX: Answer: £1.

RALPH: Number 9.
MATRIX: Answer: 3600.

RALPH: And finally - number 10.
MATRIX: Answer: 4000.

RALPH: Now, anybody who got all those right deserves a medal - but what you'll actually get is one point for every correct answer. Work out your score for that round!

OK, now you've got your scores straight we can say goodbye to Round 1 and say hello to...

Round 2 - The Maths Challenge super splash!

And here we are - the Maths Challenge swimming centre: two huge pools, one for the learners that never gets deeper than 1 ¼ metres and one for the advanced swimmers that goes down to 3 ¾ metres at its deepest point. And that brings us to the first question of the round. What I want to know is this: how much deeper is the advanced swimming pool from the learner shallow pool. Listen carefully again to the question. The learner pool is 1 ¼ metres deep. The advanced swimming pool is 3 ¾ metres. How much deeper is the advanced swimming pool? Work out your answer and write it down.

Time's up. Did you get that worked out? Too late if you didn't because here comes Matrix with the answer.

MATRIX: The advanced swimmer pool is 3 ¾ metres deep; the learner pool is 1 ¼ metres. So if you take 1 ¼ metres from 3 ¾ metres, that gives you an answer of 2 ½ metres.

RALPH: That's the answer you've got to have written down if you're going to get the five points. Zero points for any other answer, I'm afraid. Before you can swim in the advanced pool, you have to prove that you're a good swimmer by swimming at least 175 metres. Now here comes the second question.

If the learner pool is 25 metres long, how many lengths do you have to swim to show you can swim 175 metres? Mental muscle here don't forget - only the answer can be written down. Listen again: the pool is 25 metres long. How many lengths does it take to make 175 metres? Work out your answer now.

OK, Matrix, how many 25 metre lengths make up 175 metres?

MATRIX: Divide 175m by 25m: $175 \div 25 = 7$.

RALPH: Seven lengths - so if that's the answer you've got written down, give yourself five points! No other answer will do.

OK, into the advanced swimmer pool we go. The pool staff bring out a giant inflatable crocodile for everybody to jump on and off. But to make it more difficult for you, they switch the giant wave machine on! And this is where our final question for the round starts. To begin with there are 19 people on the crocodile: get that number fixed into your mind. 19 on the crocodile. Then along comes the first wave: six fall off and three manage to climb back on. Six off, three on. Work out how many are on the crocodile now.
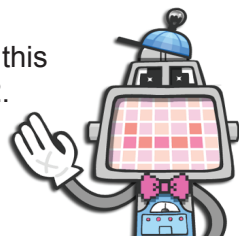
Keep that number in your head. The second wave knocks five into the water, but seven climb on. Five off, seven on. How many on the crocodile now? Get the new number in your mind and wait for the final wave...

Wave number 3 - a big one this time! Ten people fall into the water and only five clamber back on. Ten off, five on. And that was the final wave. So what I want to know is how many people are on the floating crocodile now? Get that mental muscle working and write down your answer.

I'm not sure which was more difficult: staying on the crocodile or working out the answer. Luckily we've got Matrix to tell us what the answer should be.

MATRIX: There were 19 people to start with; 6 fell off and 3 got back on, so then there were 16. When the second wave arrived 5 fell in and 7 got back on; making 18 people. The last wave knocked 10 people off and only 5 managed to get back on. So there were 13 people on the crocodile after the final wave.

RALPH: Five points if you got that answer - and that's all the points you can get in this round because it's time to start adding up your scores for Rounds 1 and 2.

3

OK, however many points you've got so far, this round will give you the chance to get 20 more, because it's time for...

Round 3 - Juggling numbers!

Now I'm sure you know all the rules by now. Matrix will choose three numbers which you have to juggle around using any of the four mathematical operations - addition, subtraction, multiplication and division - until you arrive at the target number. So pick up your pencils, ready to make a note of the first three numbers...

MATRIX: 4, 4, and 24.

RALPH: 4, 4, and 24. And now, Matrix, that all essential target number?

MATRIX: 7.

RALPH: 7. Juggle 4, 4 and 24 to make 7 then. You've got one minute to do it, so start juggling numbers now!

Time's up! If you haven't worked it out by now you'll just have to sit back and listen to Matrix.

MATRIX: 24 + 4 = 28; and 28 ÷ 4 = the target number: 7

RALPH: It certainly does! 10 points for a correct answer - and if you reached the target number in a different way check it out with a teacher at the end of this round. Matrix, let's have our second set of three numbers.

MATRIX: 32, 9, and 4.

RALPH: 32, 9, and 4. And the target number?

MATRIX: 4.

RALPH: That's the task: make 4 using only the numbers 32, 9 and 4. You've only got 30 seconds this time, starting now.

I hope you've managed to do it because that was the last question in the quiz for today and your last chance to add 10 points to your total. What should they have written down, Matrix?

MATRIX: 32 + 4 = 36; 36 ÷ 9 = the target number: 4.

RALPH: Well no arguing with that! Those of you who got it right, award yourselves 10 points. If you did it in a different way ask your teacher to check it - after Matrix has said:

MATRIX: I'll be back next time!

RALPH: Because that's the end of the quiz for today. Add up your total scores for the contest!

4