RALPH:	Hello and welcome to another **Maths Challenge** - the quiz that sets out to boost your brain power to the point where you can all truly call yourselves mental maths masterminds! Now before we start Round 1 you need to make sure that you've got a pencil and paper to write down the answers.
	Matrix, what is today's mathematical expression?
MATRIX:	**Square route**. A square route is a number which when multiplied by itself equals a target number. So the square route of 4 is 2. 2 x 2 = 4.
RALPH:	Now that sounds a bit tricky to me.
MATRIX:	Not really. To find the square route of 9 all you have to do is find a number which makes 9 when you multiply it by itself.
RALPH:	Oh, I see. You mean 3 x 3 = 9.
MATRIX:	So, the square route of 9 is 3.
RALPH:	I've got it now. So pencils and papers is ready because it's time for...

Round 1 - Beat the clock!

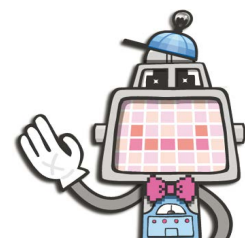| RALPH:	The questions in this round will come thick and fast and you only get two seconds to answer each one. Listen out carefully because the first question is about square roots.
	Question 1. What is the square root of 36? What number multiplied by itself makes 36?
	Question 2. How many days in November? The number of days in the month of November?
	Third question. What is the sum of eight and nine? What is 8 + 9?
	Question 4. What is ¼ as a decimal? A quarter as a decimal: what is it?
	Question 5. How many minutes in three quarters of an hour? Three quarters of an hour: how many minutes?
	Question 6. How many sides has a pentagon? A pentagon is a shape with how many sides?

Seventh question. What is double 18? If you double the number 18 what do you get?

Number eight. How many 20p coins make £5? How many 20p coins does it take to make £5?

Right, here come...

MATRIX:	The answers!
RALPH:	Get ready to mark your answers right or wrong. Starting with number 1.
MATRIX:	Answer: 6.
RALPH:	Number 2.
MATRIX:	Answer: 30.
RALPH:	Number 3.
MATRIX:	Answer: 17.
RALPH:	Number 4.
MATRIX:	Answer: 0.25.
RALPH:	Number 5.
MATRIX:	Answer: 45.
RALPH:	Number 6.
MATRIX:	Answer: 5.
RALPH:	Number 7.
MATRIX:	Answer: 36.
RALPH:	Number 8.
MATRIX:	Answer: 25.

RALPH: So you get one point for every correct answer. Stop and work out your score for that round.

You should have your scores the first round worked out then. Anyone with 8 points? Congratulations if you have. Right on to the next round then and this week it's called:

Round 2 - Shop till you drop!

RALPH: And here we are at the Maths Challenge Superstore - it's the biggest music store in Europe. Let's go up to the top floor. Here comes the lift. Right everybody in! Right, this is where our first question of the round starts. It's all about the number of people in the lift so listen carefully.

OK, so when you get into the lift on the ground floor there are 12 people in it. Remember that: 12 people! Ready. Going up!

Right, it stops at third floor. Jazz, blues and country music. Nobody gets out but eight more people get in. Nobody out, 8 in. How many are in the lift now? Remember the number in your head. Going up!

Next stop is the fifth floor. Classical and opera. Three people get out and only one person gets in. Three out, one in. How many are in the lift now? And keep the answer in your head. Going up!

We've reached the eighth floor. Easy listening. Six people scramble out and two push their way in. Six out, two in. Work out the new number in your head. Going up!

At last, top floor. Clothing and merchandise. What I want to know is how many people are in the lift at the top floor. Write down your final answer now.

I wonder if you managed to keep all those numbers in your head while the lift was going up. Matrix, let's have the answer.

MATRIX: There were 12 people in the lift in to start with. At the first stop eight got in and no-one got out. Making a total of 20 people in the lift. At the next floor, three people got out and only one got in. Leaving 18 in the lift. At the next stop, six people got out and two got in. Leaving 14 people in the lift. And all those 14 people were still in lift when it reached the top floor.

RALPH: So 14 people were in the lift by the time it reached the top. If you got that answer right then you can give yourselves five points. If you got it wrong then I'm afraid no points at all. OK, now you've reached the right department you can start looking for the things you want to buy. There's a sale on and T-shirts are down to just £4.49 each. You decide to buy two. So here's the next question.

You buy two T-shirts at £4.49 each. How much are you paying altogether? So two lots of £4.49. How much do the T-shirts cost altogether?

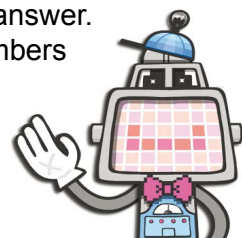And time's up! I hope you have written down your answer because here comes Matrix.

MATRIX: The total cost of two T-shirts at £4.49 each is £8.98.

RALPH: £8.98 it is then. Give yourselves five points if you got it right; zero if you got it wrong. And that brings us to the end of round two. Work out how many points you've scored so far.

Well, however many points you've got don't give up yet, because the final round brings you the chance to earn a fantastic 20 points! So let's get ready for -

Round 3 - Jugging numbers!

RALPH: There are two questions in this round and you get 10 points for each right answer. Here are the rules. Matrix is going to come up with three numbers, like numbers 18, 2 and 4...

Now what you have to do is juggle those numbers around using any of the four mathematical operations - that means you can add them, subtract, multiply or divide - and try to make them come to the target number, which might be four. So how can you juggle the numbers 18, 2 and 4 and end up with the answer 4?

MATRIX: Simple. 18 - 2 = 16; 16 ÷ by 4 = the target number: 4.

RALPH: OK, pencils and paper at the ready to write down these numbers:

MATRIX: The three numbers are 6, 3 and 4.

RALPH: OK, write them down. 6, 3 and 4 - and your target number this time is -

MATRIX: 27.

RALPH: 27. Now you've got 30 seconds exactly to work out how to juggle the numbers 6, 3 and 4 to make 2. You can only use each number once but you can add, subtract, multiply or divide. Start using your mental maths muscle now!

Time's up! You should have written down your answer by now. Matrix, how's it done?

MATRIX: 6 x 4 = 24; 24 + 3 = 27.

RALPH: That's definitely worth ten points if you got it right. But if you think you've found a different way of getting 27 from those three numbers ask your teacher to check it out at the end of this round and if you're right you score 10 points too. Time for one more set of number juggling. Ready to write them down.

MATRIX: The next set of numbers: 3, 2, and 21.

RALPH: 3, 2, and 21. And the target?

MATRIX: 36.

RALPH: A target of 36 using only the numbers 3, 2 and 21. One minute to see if you can solve it. Start working on your answers now. You've got one minute.

Well that was the final question of the contest, quite a tricky one to end on. Matrix, give us the answer.

MATRIX: 21 - 3 = 18; 18 x 2 = 36.

RALPH: Ingenious, Matrix! And if you got that you scored 10 points. And don't forget if you think you've found another way of doing it check with your teacher in just a few moments. Add up your scores for all three rounds.

MATRIX: What about me?

RALPH: Say goodbye till next time, Matrix!

MATRIX: Goodbye, till next time!

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