

MATHS CHALLENGE 9



- RALPH: Hello, Maths Challengers, welcome back to the quiz that puts the magic into mental maths and creates mental maths master magicians! And your first trick today will be to conjure up a pencil and paper to write down your answers. So before we start, let's find out from Matrix what mathematical expression he's got for us today.
- MATRIX: **Odd numbers.** In maths 'odd numbers', are numbers which do not divide exactly by 2, there is always a remainder. They are the opposite of *even* numbers, that **do** divide exactly by 2. An easy way of telling if a number is an odd number is look at the digit in the units column. If it is a 1, 3, 5, 7 or 9 - then the number is odd.
- RALPH: Right, a bit like magic, isn't it? Just look at the digit in the units column and it will tell you if it's an odd number. So 43 is odd because there is a three in the units column. 197 is odd...
- MATRIX: ...because there is a 7 in the units column.
- RALPH: OK. Pencils and paper at the ready because it's time for...

Round 1 - Beat the clock!

Now don't forget, this is a mental maths quiz. Here's question 1 - and it's about odd numbers. Which of these numbers is an odd number: 1324, 798, 1861? Which is an odd number? 1324, 798, or 1861?

Question 2. How many days in a fortnight?

Question 3. What is half of £7?

Question 4. How many corners on a cube? How many corners does a cube have?

Question number 5. Divide 0.5 by 10? 0.5 divided by 10 is?

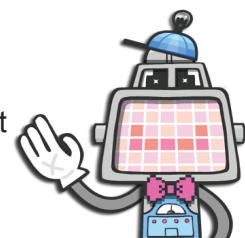
Question 6. How many minutes between 7:55am and 8:15am? 7:55am to 8:15am: how many minutes is that?

Seventh question. What is the perimeter of a rectangle measuring 4cm x 7cm?

Question 8. If $T - 8 = 12$. What is T? What is T when $T - 8 = 12$?

Question number 9. What is 25% of £2? 25% of £2 is how much?

And tenth question. Which number is 30 times greater than seven? What is 30 multiplied by seven?





That's the last question of the round, so get ready for...

MATRIX: The answers!

RALPH: Let's go with Number 1.

MATRIX: Answer: 1861.

RALPH: Number 2.

MATRIX: Answer: 14.

RALPH: Number 3.

MATRIX: Answer: £3.50.

RALPH: Number 4.

MATRIX: Answer: 8.

RALPH: Number 5.

MATRIX: Answer: 0.05.

RALPH: Number 6.

MATRIX: Answer: 20.

RALPH: Number 7.

MATRIX: Answer: 22cm.

RALPH: Number 8.

MATRIX: Answer: 20.

RALPH: Number 9.

MATRIX: Answer: 50p.

RALPH: Number 10.

MATRIX: Answer: 210.

RALPH: Better work out your score before we get onto the next round. One point for every correct answer.

OK, now you've got your first round score worked out we can hurry straight on to...

Round 2 - Aim for the bullseye!

We're going to be taking part in the great **Maths Challenge Darts Competition**. Matrix you can be scorer. Let's go over there straightaway...

Well here we are and there's quite a crowd that has come to watch. There's a brand new unused dartboard and an electronic scoreboard, manned by you know who...

MATRIX: 180!





RALPH: Right, now the players have been divided into 4 teams. You've been chosen to throw for your team. So here goes. Good throw! Treble 15 - and here's the first question. Work it out in your head. How many did you score with your treble 15? Work out your answer and write it down now.

Done it? Right then, Mr Scorer, what is treble 15?

MATRIX: Treble 15 is 15×3 which = 45!

RALPH: 45 - and that's the only answer that will get you five points. Now your team gets to go first, so up you step, three darts in your hand and here's question two. I want to know how many you score with your three darts. No working out on paper, all in your head. So listen carefully. Here comes the first throw.

Well done, double 18! Work out what is double 18 and put it into your memory because you're going to need it in a minute.

Next dart then - treble 10! Not bad. Now work out what treble 10 comes to and add it on to the number you scored with your first dart. Then keep that number firmly fixed in your mind.

OK, last dart coming up. Pretty good - double 17! Now work out what double 17 is and add it to your score from the first two darts to make your total score for the match. You've got 10 seconds.

Did you manage that? It was pretty tricky keeping all those numbers in your head. Matrix show us how you did it.

MATRIX: First throw, double 18. That's 36. The next dart was treble 10, which equals 30. Add that 30 on to the 36 and that makes 66. And the final dart was double 17, which is 34. 34 plus the 66 from the first two darts gives a final score of 100!

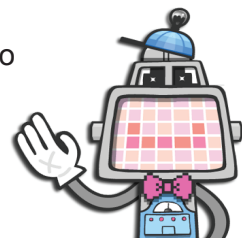
RALPH: 100! If that's the answer you got then award yourself five points. OK, on with the competition. Your team is scoring very well. Right, this is the next question. Listen carefully. You need 26 points to finish. But the rule is that you have to end on a double. So, the question is this. What double do you have to aim at to get 26? What number when you double it, is equal to 26?

Matrix, tell us please, what double will give a score 26.

MATRIX: $13 \times 2 = 26$. So you need to be aiming at double 13.

RALPH: Double 13. Well five points if that's what you wrote down, zero points if you wrote down anything else. Now that was the last question in Round 2; count up your score for Rounds 1 and 2 together.

One final chance to add to those scores because there are more points to be won in...



Round 3 - Juggling numbers!

And how to juggle numbers? Well I'm sure you remember: we begin with three numbers and you have to juggle them around in any way you like - add them, subtract them, multiply or divide them - so that you reach the target number. You've got to work it out all in your head. Pencils poised then, ready to write down the numbers? Off you go, Matrix!

MATRIX: 12, 7 and 5.

RALPH: 12, 7 and 5 - and the target number to aim for is?

MATRIX: 47.

RALPH: 47 then. You have to juggle 12, 7 and 5 in an attempt to turn them into the target number, 47. You've got one minute starting now.

Right, time's up. Matrix, tell us what's the answer.

MATRIX: $7 \times 5 = 35$. Add 35 onto 12. $35 + 12 = 47$, the target number!

RALPH: Ah, clever one that, Matrix. Ten points if you succeeded in getting it right and - remember - get your teacher to check it if you found another way of doing it. Anyway, here's your last chance to score more points. Matrix, one more set of numbers please!

MATRIX: 2, 18 and 10.

RALPH: Make a note of them. 2, 18, and 10. Also note down the target number, which is...

MATRIX: 6.

RALPH: 6. Right that's the challenge then: 2, 18 and 10 and you've got to reach the target number of 6. You've got 30 seconds to work it out in your head, starting now.

Right, Matrix, amaze us with your skill and dexterity!

MATRIX: $10 + 2 = 12$; $18 - 12 = 6$, the target number!

RALPH: Astounding! Ten points for those who got right. Remember if you found another way of doing it get your teacher to check it later. Well that was your last chance to score and your last **Maths Challenge Quiz** - because it's the end of the series for now.

MATRIX: Goodbye Challengers - and don't forget to keep those mental muscles in good shape.

RALPH: Congratulations, Maths Challengers! You have now completed a great many mental maths quiz questions! Well, keep those mental muscles working! Bye!

