

ANSWERS TO PUZZLE OF ISSUE 1, OCTOBER 2023



1. How many rectangles can you draw with a perimeter of 24 cm when it is given that each side is a whole number?

Six rectangles can be formed (1, 11), (2, 10), (3, 9), (4, 8), (5, 7), (6, 6) with 24 cm long string.

2. Of a rectangle and square having the same perimeter, which one will have a larger area?

Assume the side of the square = 60 m

Length of the rectangle = 80 m and breadth of the rectangle = 40 m

Perimeter of the square = $4 \times (\text{side of square}) = 4 \times 60\text{m} = 240\text{ m}$

Perimeter of rectangle = $2 \times (\text{length} + \text{breadth}) = 240\text{ m}$

Area of the square = $\text{side} \times \text{side} = 3600\text{ m}^2$

Area of the rectangular field = $\text{length} \times \text{breadth} = 3200\text{ m}^2$

Thus, a square's area is larger than a rectangular field's area.

3. A man runs around a square park and covers 1 km in five rounds. What is the area of the park?

Let s be the length of each side of the square.

Distance covered in 1 round = $4s$

Distance covered in 5 rounds = $5 \times 4s = 20s$

According to the question,

$20s = 1\text{ km} = 1000\text{ m}$

$s = 1000/20 = 50\text{ m}$

Area of the park = $s \times s = 2500\text{ m}^2$

4. A photograph is 7 cm long and 5 cm wide. It is surrounded by a border of uniform width. If the area of the border is 64 sq. cm, what is the width of the border?

The area of the border alone is 64 sq. cm.

$(l + 2x)(w + 2x) - l \times w = 64\text{ sq. cm}$

$(7 + 2x)(5 + 2x) - 7 \times 5 = 64\text{ sq. cm}$

By solving, $x = 2\text{ cm}$

5. I thought of a number. I added 3 to it and doubled the sum. Then I added 4 to the result and multiplied the total by -5 . If the final answer is 100, what number did I start with?

According to the question,

$$[2(x + 3) + 4] \times (-5) = 100$$

By solving $x = -15$

6. Two six-sided dice are rolled. What is the probability that the sum of the numbers rolled on the dice will be a prime number?

Favourable outcomes = $\{(1, 1) (1, 2) (1, 4) (1, 6) (2, 1) (2, 3) (2, 5) (3, 2) (3, 4) (4, 1) (4, 3) (5, 2) (5, 6) (6, 1) (6, 5)\}$

Number of favourable outcomes = 15

Probability = $\frac{\text{Number of favourable outcomes}}{\text{Number of possible outcomes}}$

Probability = $15/36 = 5/12$

7. A man walks at a speed of 150 steps per minute. Each of his steps is 0.7 m long. Find his speed in km/h.

Distance covered in 1 minute = $150 \times 0.7\text{ m} = 105\text{ m}$

So, the distance covered in 60 minutes = $105\text{ m} \times 60 = 6300\text{ m} = 6.3\text{ km}$

Thus, the speed of the man is 6.3 km/hr .

8. In a certain code language, CHANDIGARH is written as DNAHCHRAGI. How is SIKKIM written in that code language?

The answer is KISMIK.

9. If \div means plus, \times means subtraction, then find the value of $(15 \times 9) \div (12 \times 4) \times (4 \div 4)$.

$$(15 - 9) + (12 - 4) - (4 + 4)$$

$$= 6 + 8 - 8 = 6$$

10. The compound interest on a sum for 2 years at 12% per annum is ₹510. What would the simple interest on the same sum at the same rate for the same period.

Let the principal sum be ₹ x .

$$\text{₹}510 = x \left(1 + \frac{12}{100}\right)^2 - x$$

$$x = \text{₹}2004.71$$

$$\text{Now, S.I.} = \frac{2004.71 \times 2 \times 12}{100} = \text{₹}481.13$$

IMPORTANCE OF MATH PUZZLE IN DEVELOPING OUR BRAIN

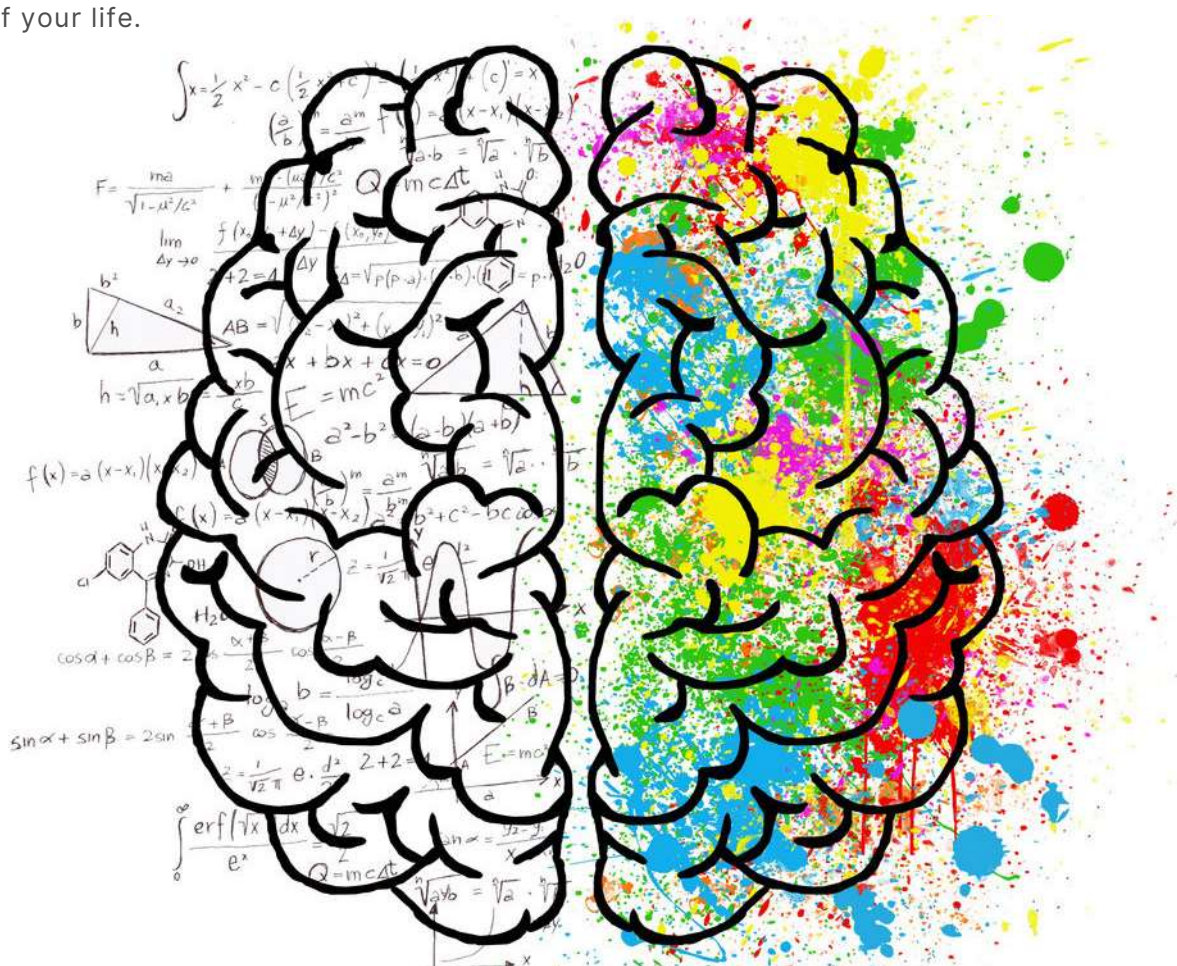


Math puzzles are widely known to be an excellent way to exercise and develop the brain. They are an excellent way to engage your mind and challenge your problem-solving skills. Solving math puzzles stimulates your brain by forcing you to approach problems in new and creative ways.

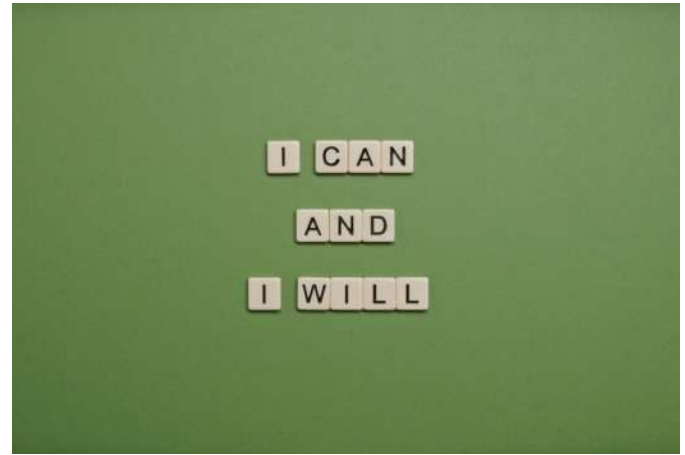
Math puzzles are a great way to improve your logical thinking and reasoning abilities. They help you develop your ability to analyze information and think critically. By solving math puzzles, you can learn to identify patterns and relationships, which can be applied to other areas of your life.

Math puzzles can also improve your memory and concentration. They require you to remember numbers and equations, which can help you develop your memory. Additionally, they require you to focus on the task at hand, which can improve your concentration skills.

Overall, math puzzles are an excellent way to exercise and develop your brain. They can help improve your logical thinking, reasoning abilities, memory, and concentration. So next time you're looking for a fun and challenging way to engage your mind, try solving a math puzzle!



THE PUZZLE TIME CHALLENGE: LET'S SOLVE IT!



1. Riya's income is 20% more than his brother Rahul. How much percent is Rahul's income less than Riya?
2. The H.C.F. and L.C.M. of two numbers are 11 and 385 respectively. If one number lies between 75 and 125, find another number.
3. By selling 110 mangoes, the CP of 120 mangoes is realised. What is the gain percentage?
4. A lamp post has half of its length in mud, 33.33 % of its length in water and 3.33 m above the water. Find the total length of the post.
5. The sum of the square of two numbers is 146 and the square root of one of them is $\sqrt{5}$. Find the cube of the other number.
6. A completes a work in 12 days. B completes the same work in 15 days. A started working alone and after 3 days B joined him. How many days will they now take together to complete the remaining work?
7. The present age of a father is twice that of his son. 15 years ago, the age of father was thrice that of his son. What is the present age of father (in years)?
8. A student got 45% marks in an exam and failed by 10 marks. If the maximum marks in the exam are 200, what is the minimum percentage marks required for passing the exam?
9. The denominator of a fraction is 1 more than its numerator. If 1 is deducted from both the numerator and the denominator, the fraction becomes equivalent to 0.5. Find the fraction.
10. If the diagonal of a square is equal to the diameter of a circle, then what is the ratio between the area of the square to the area of the circle?

**Answers will be published in the
December 2023 (next) issue.**