

## Welcome to Trivia Quiz!

In this quiz, you'll be able to answer a few maths questions.

Are you ready? Yes/No

- If a person answers with a yes = **Let's start the quiz!**

- If a person answers with a no = **How would you see the questions if you answer with 'No'?. if you wish to view the questions, please enter 'Yes'. =)**

### Question 1:

What is  $60+9$ ?

Correct answer is 69

Explanation:  $60+9$  is a simple mathematical operation known as addition. When you add 60 and 9 together, the result is 69. Therefore,  $60+9=69$ .

### Question 2:

Solve  $-15+(-5x)=0$

Correct answer is -3

Explanation:  $-15+(-5x)=0$  can be simplified to  $-5x=15$  by combining like terms and adding 15 to both sides. Dividing both sides by -5 gives the solution  $x=-3$ .

### Question 3:

Look at this series: 22, 21, 23, 22, 24, 23, ... What number should come next?

- A. 21
- B. 22
- C. 23
- D. 24
- E. 25

Correct answer is E.

Explanation: The next number in the series is 25, obtained by adding 2 to the previous number (23).

### Question 4:

How many feet are in a mile?

Correct answer is: 5280

Explanation: There are 5280 feet in a mile.

### Question 5:

A ship anchored in a port has a ladder which hangs over the side. The length of the ladder is 200cm, the distance between each rung is 20cm and the bottom rung touches the water.

The tide rises at a rate of 10cm an hour. When will the water reach the fifth rung?

- A. 20cm
- B. 200cm
- C. Never
- D. I don't know

Correct answer is C.

Explanation: The height of the fifth rung above the water is 80cm. As the tide rises at 10 cm per hour, it will take 8 hours ( $80\text{cm}/10\text{cm per hour}$ ) for the water to reach the fifth rung.

Question 6:

What is the integral of  $\cos(x)/(x^2 + 1) dx$ ?

- A.  $\pi$  over  $e$
- B.  $\ln(\pi$  over  $2)$
- C.  $\ln$
- D. I don't know.

Correct answer is A.

Explanation: Using complex analysis and the residue theorem, we can evaluate the integral of  $\cos(x)/(x^2 + 1)$  from negative infinity to infinity. We first consider a function  $f(z)$  with simple poles at  $i$  and  $-i$  in the upper half-plane. By evaluating the integral along a semi-circular contour, we can take the residue of  $f(z)$  at  $i$  and obtain the value of the integral. The final result is  $\pi/e$ .