

High School Multiplication and Division

Mathematics · Answer Key · 15 Questions

1. What is the result of dividing a non-zero number by its own multiplicative inverse?

- A) The number itself
- B) One**
- C) Zero
- D) The negative of the number

2. If a polynomial $P(x)$ is divided by $(x - a)$, the Remainder Theorem states that the remainder is equal to which of the following?

- A) $P(a)$**
- B) $P(-a)$
- C) $P(0)$
- D) a

3. What is the product of two negative integers?

- A) A negative integer
- B) Zero
- C) A positive integer**
- D) An undefined value

4. In modular arithmetic, what is the result of 15 modulo 4?

- A) 0
- B) 1
- C) 2
- D) 3**

5. The division of a number by zero is defined as:

- A) Zero
- B) The number itself
- C) Undefined**
- D) Infinity

6. Which property states that $a(b + c) = ab + ac$?

- A) Associative
- B) Commutative
- C) Distributive**
- D) Identity

7. What is the product of a matrix and its inverse, provided the inverse exists?

- A) The zero matrix
- B) The identity matrix**
- C) The original matrix
- D) A scalar value

8. When multiplying two exponential terms with the same base, what operation is performed on the exponents?

- A) Multiplication
- B) Division
- C) Addition**
- D) Subtraction

9. What is the quotient when dividing 10^{-3} by 10^{-5} ?

- A) 10^2**
- B) 10^{-2}
- C) 10^8
- D) 10^{-8}

10. In the context of complex numbers, what is the product of $(a + bi)$ and $(a - bi)$?

- A) $a^2 - b^2$
- B) $a^2 + b^2$**
- C) $a^2 - b^2i$
- D) $a^2 + b^2i$

11. What is the result of multiplying any real number by the multiplicative identity?

- A) Zero
- B) The number itself**
- C) One
- D) The additive inverse

12. For any two non-zero vectors, what operation involves the product of their magnitudes and the cosine of the angle between them?

- A) Cross product
- B) Dot product**
- C) Scalar division
- D) Vector addition

13. What is the result of 0 divided by any non-zero real number?

- A) Undefined
- B) One
- C) Zero**
- D) The number itself

14. Which rule is used to find the derivative of a function that is the quotient of two other functions?

- A) Product rule
- B) Chain rule
- C) Quotient rule**
- D) Power rule

15. How is the division of one fraction by another performed?

- A) Multiply by the reciprocal of the divisor**
- B) Multiply the numerators and denominators directly
- C) Cross-multiply and add
- D) Subtract the denominators