

Fundamental Algebraic Concepts

Algebra · Answer Key · 12 Questions

1. Which term is used to describe a mathematical expression consisting of two terms connected by a plus or minus sign?

- A) Monomial
- B) Binomial**
- C) Trinomial
- D) Polynomial

2. In the algebraic equation $5x + 3 = 18$, what is the value of x ?

- A) 2
- B) 4
- C) 3**
- D) 5

3. Who is widely considered the 'father of algebra' for his 9th-century work 'Al-Kitab al-Mukhtasar fi Hisab al-Jabr wal-Muqabala'?

- A) Al-Khwarizmi**
- B) Euclid
- C) Pythagoras
- D) Isaac Newton

4. What is the standard form of a quadratic equation?

- A) $ax + b = 0$
- B) $ax^2 + bx + c = 0$**
- C) $y = mx + b$
- D) $a^2 + b^2 = c^2$

5. When multiplying two terms with the same base, such as $x^a * x^b$, what do you do with the exponents?

- A) Subtract them
- B) Divide them
- C) Add them**
- D) Multiply them

6. What is the result of any non-zero number raised to the power of zero?

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

7. Which of the following is the correct representation of the slope-intercept form of a linear equation?

A) $ax + by = c$

B) $y = mx + b$

C) $x = ay + b$

D) $y - y_1 = m(x - x_1)$

8. In the expression $4x^3$, what is the '4' called?

A) Exponent

B) Variable

C) Coefficient

D) Base

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

A) Commutative Property

B) Associative Property

C) Distributive Property

D) Identity Property

10. What is the square root of 144?

A) 10

B) 11

C) 12

D) 14

11. What do you call a letter or symbol used to represent an unknown value in an algebraic expression?

A) Constant

B) Coefficient

C) Variable

D) Exponent

12. If $a = 5$ and $b = 2$, what is the value of $a^2 - b^2$?

A) 21

B) 25

C) 9

D) 10