

# Algebraic Origins and Fundamentals

Algebra · Answer Key · 15 Questions

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**1. In what century did the Persian mathematician Muhammad ibn Musa al-Khwarizmi write the book that introduced the term 'algebra' to the world?**

- A) 7th century
- B) 9th century**
- C) 11th century
- D) 13th century

**2. What is the numerical value of a variable typically represented by the letter 'x' when the equation is  $x + 5 = 10$ ?**

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

**3. The word 'algebra' originates from the Arabic word 'al-jabr', which appeared in the title of a book written in approximately what year?**

- A) 820 AD**
- B) 950 AD
- C) 1020 AD
- D) 1150 AD

**4. In the standard algebraic expression  $3x + 7$ , what is the constant term?**

- A) 3
- B) x
- C) 7**
- D) 3x

**5. How many sides does a shape have if its perimeter is calculated using the algebraic formula  $P = 4s$ ?**

- A) 3
- B) 4**
- C) 5
- D) 6

**6. Who is often referred to as the 'Father of Algebra' due to his 9th-century work?**

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

7. In the equation  $2y = 12$ , what is the numerical value of  $y$ ?

- A) 4
- B) 6**
- C) 8
- D) 10

8. What is the exponent value in the expression  $x^2$ ?

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

9. Which number is known as the 'additive identity' in algebra, meaning adding it to any number leaves the number unchanged?

- A) -1
- B) 0**
- C) 1
- D) 10

10. What is the value of 3 squared ( $3^2$ ) in basic algebraic arithmetic?

- A) 6
- B) 8
- C) 9**
- D) 12

11. If  $5a = 20$ , what is the value of 'a'?

- A) 3
- B) 4**
- C) 5
- D) 15

12. Which century saw the first use of the plus (+) and minus (-) signs in published algebraic mathematics in Germany?

- A) 13th century
- B) 15th century**
- C) 17th century
- D) 19th century

13. How many variables are present in the expression  $2a + 3b$ ?

- A) 1
- B) 2**
- C) 3
- D) 5

14. What is the result of  $2x$  when  $x = 0$ ?

- A) 0**
- B) 1
- C) 2
- D) 20

15. In the expression  $4x$ , what is the name of the number '4'?

- A) Variable
- B) Exponent
- C) Coefficient**
- D) Sum