

Advanced Pre-Algebra Mastery

Mathematics · Answer Key · 12 Questions

1. Which of the following expressions is equivalent to the scientific notation 4.5×10^{-3} when written in standard decimal form?

- A) 0.00045
- B) 0.0045**
- C) 0.045
- D) 4500

2. If a triangle has interior angles measuring $3x$, $4x$, and $5x$ degrees, what is the value of x ?

- A) 10
- B) 12
- C) 15**
- D) 18

3. Which property of real numbers justifies the statement: $a(b + c) = ab + ac$?

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

4. What is the value of the expression $2^3 \times 3^2 - 4^2$?

- A) 56**
- B) 64
- C) 80
- D) 128

5. A line passes through the points (2, 5) and (4, 9). What is the slope of this line?

- A) 0.5
- B) 1
- C) 2**
- D) 4

6. If the perimeter of a rectangle is 48 cm and the length is 3 times the width, what is the width of the rectangle?

- A) 4 cm
- B) 6 cm**
- C) 8 cm
- D) 12 cm

7. Which value of x satisfies the equation $3(x - 4) = 2x + 7$?

- A) 11
- B) 15
- C) 19**
- D) 21

8. What is the product of $(x + 5)(x - 5)$?

- A) $x^2 - 25$**
- B) $x^2 + 25$
- C) $x^2 - 10x - 25$
- D) $x^2 + 10x - 25$

9. When solving for y in the system of equations $y = 2x + 1$ and $x + y = 7$, what is the resulting value of y ?

- A) 2
- B) 3
- C) 5**
- D) 7

10. What is the volume of a cylinder with a radius of 3 cm and a height of 7 cm? (Use $\pi \approx 3.14$)

- A) 63.00 cm^3
- B) 131.88 cm^3
- C) 197.82 cm^3**
- D) 237.14 cm^3

11. Which number is the smallest: 0.125, $\frac{1}{9}$, 12%, or 0.1?

- A) 0.125
- B) $\frac{1}{9}$
- C) 12%
- D) 0.1**

12. If a sequence is defined by $a_n = 2n - 1$, what is the 10th term of the sequence?

- A) 10
- B) 18
- C) 19**
- D) 21