

### Quiz 1.4: Rational Algebraic Expressions

**Multiple Choice:** Choose the letter that corresponds to the correct answer. Write the answer in your answer sheet.

- What is the general form of a linear equation in two variables?
  - $ax + b = 0$
  - $ax + by = c$
  - $ax^2 + by^2 = c$
  - $ax^2 + bx + c = 0$
- What is the x-coordinate of the y-intercept of a linear equation?
  - 0
  - 1
  - The slope of the line
  - The coefficient of x
- What is the first step in multiplying rational algebraic expressions?
  - Simplify the expressions to their lowest terms.
  - Multiply the numerators and denominators separately.
  - Factor the expressions before multiplying.
  - Cross-cancel any common factors.
- The rectangular coordinate system is also known as:
  - The x-y axis
  - The Cartesian plane
  - The polar system
  - The graphing plane
- Which of the following is **NOT** a linear equation in two variables?
  - $2x = 4 + y$
  - $xy = 2$
  - $y = \frac{x}{2}$
  - $\frac{1}{4}x = y$
- Explain the rectangular coordinate system. What are the key components of the coordinate plane?
  - The x-axis, y-axis, and origin
  - The x-axis, y-axis, and scale
  - The x-axis, y-axis, and labels
  - The x-axis, y-axis, and quadrants
- Explain how to add and subtract rational algebraic expressions. What are the steps involved in performing these operations?
  - Simplify the expressions to their lowest terms.
  - Divide the numerators and denominators separately.
  - Multiply the numerators and denominators separately.
  - Find the least common denominator and combine like terms.
- In the slope-intercept form of linear equations, what do  $m$  and  $b$  represent?
  - m-intercept and b-intercept
  - x-intercept and y-intercept
  - Slope and x-intercept
  - Slope and y-intercept
- Use the concept of division of rational algebraic expressions to simplify the expression  $\frac{14x^2}{20y^2} \div \frac{56x^2}{y}$ .
  - $\frac{1}{8x}$
  - $\frac{1}{8y}$
  - $\frac{1}{80x}$
  - $\frac{1}{80y}$
- Apply the concept of multiplication of rational algebraic expressions to simplify the expression  $\frac{12mn^2}{6xy^2} \cdot \frac{9x^2y^2}{4m^2n^2}$ .
  - $\frac{9m}{2x}$
  - $\frac{9x}{2m}$
  - $-\frac{9m}{2x}$
  - $-\frac{9x}{2m}$
- Apply the subtraction of rational algebraic expressions to simplify the expression  $\frac{6}{3a-9} - \frac{3}{3a-9}$ .
  - $\frac{1}{a-3}$
  - $\frac{1}{a-4}$
  - $\frac{2}{a-3}$
  - $\frac{2}{a-4}$
- Use the addition of rational algebraic expressions to simplify the expression  $\frac{x^2-3x-7}{x^2-9} + \frac{x^2-2x+4}{x^2-9}$ .
  - $\frac{2x}{x+3}$
  - $\frac{2x+1}{x+3}$
  - $\frac{3x}{x+3}$
  - $\frac{3x+1}{x+3}$

### Quiz 1.4: Rational Algebraic Expressions

**Multiple Choice:** Choose the letter that corresponds to the correct answer. Write the answer in your answer sheet.

- What is the general form of a linear equation in two variables?
  - $ax + b = 0$
  - $ax + by = c$
  - $ax^2 + by^2 = c$
  - $ax^2 + bx + c = 0$
- What is the x-coordinate of the y-intercept of a linear equation?
  - 0
  - 1
  - The slope of the line
  - The coefficient of x
- What is the first step in multiplying rational algebraic expressions?
  - Simplify the expressions to their lowest terms.
  - Multiply the numerators and denominators separately.
  - Factor the expressions before multiplying.
  - Cross-cancel any common factors.
- The rectangular coordinate system is also known as:
  - The x-y axis
  - The Cartesian plane
  - The polar system
  - The graphing plane
- Which of the following is **NOT** a linear equation in two variables?
  - $2x = 4 + y$
  - $xy = 2$
  - $y = \frac{x}{2}$
  - $\frac{1}{4}x = y$
- Explain the rectangular coordinate system. What are the key components of the coordinate plane?
  - The x-axis, y-axis, and origin
  - The x-axis, y-axis, and scale
  - The x-axis, y-axis, and labels
  - The x-axis, y-axis, and quadrants
- Explain how to add and subtract rational algebraic expressions. What are the steps involved in performing these operations?
  - Simplify the expressions to their lowest terms.
  - Divide the numerators and denominators separately.
  - Multiply the numerators and denominators separately.
  - Find the least common denominator and combine like terms.
- In the slope-intercept form of linear equations, what do  $m$  and  $b$  represent?
  - m-intercept and b-intercept
  - x-intercept and y-intercept
  - Slope and x-intercept
  - Slope and y-intercept
- Use the concept of division of rational algebraic expressions to simplify the expression  $\frac{14x^2}{20y^2} \div \frac{56x^2}{y}$ .
  - $\frac{1}{8x}$
  - $\frac{1}{8y}$
  - $\frac{1}{80x}$
  - $\frac{1}{80y}$
- Apply the concept of multiplication of rational algebraic expressions to simplify the expression  $\frac{12mn^2}{6xy^2} \cdot \frac{9x^2y^2}{4m^2n^2}$ .
  - $\frac{9m}{2x}$
  - $\frac{9x}{2m}$
  - $-\frac{9m}{2x}$
  - $-\frac{9x}{2m}$
- Apply the subtraction of rational algebraic expressions to simplify the expression  $\frac{6}{3a-9} - \frac{3}{3a-9}$ .
  - $\frac{1}{a-3}$
  - $\frac{1}{a-4}$
  - $\frac{2}{a-3}$
  - $\frac{2}{a-4}$
- Use the addition of rational algebraic expressions to simplify the expression  $\frac{x^2-3x-7}{x^2-9} + \frac{x^2-2x+4}{x^2-9}$ .
  - $\frac{2x}{x+3}$
  - $\frac{2x+1}{x+3}$
  - $\frac{3x}{x+3}$
  - $\frac{3x+1}{x+3}$