



Sample Questions

Age Group 4

Algebraic Adventures:

Solve the system of equations:

$$2x + 3y = 10$$
$$4x - y = 7$$

- A. $x = 2, y = 1$
- B. $x = 1, y = 2$
- C. $x = 3, y = -1$
- D. $x = -1, y = 3$

Rational Number Riddles:

Which of the following fractions is equivalent to $\frac{3}{5}$?

- A. $\frac{4}{6}$
- B. $\frac{6}{10}$
- C. $\frac{9}{15}$
- D. $\frac{12}{20}$

Function Frenzy:

What is the domain of the function

$$f(x) = \sqrt{x + 4}$$

- A. $x \geq -4$
- B. $x > -4$
- C. $x \leq -4$
- D. All real numbers

Proportional Relationships:

If a car travels 240 miles in 4 hours, what is its average speed in miles per hour?

- A. 40 mph
- B. 60 mph
- C. 80 mph
- D. 120 mph

Geometry Quest:

What is the formula for the area of a circle?

- A. $A = \pi r^2$
- B. $A = 2\pi r$
- C. $A = \pi d$
- D. $A = \pi r$

Real Number Realm:

Which of the following numbers is irrational?

- A. 2
- B. $\frac{3}{4}$
- C. $\sqrt{5}$
- D. $\frac{5}{6}$

Statistical Sleuths:

What is the probability of rolling a 4 on a fair six-sided die?

- A. $\frac{1}{6}$
- B. $\frac{1}{4}$
- C. $\frac{1}{3}$
- D. $\frac{1}{2}$

Transformations Trek:

Which transformation preserves the shape and size of an object?

- A. Reflection
- B. Rotation
- C. Translation
- D. Dilation