

## Math Worksheets For 8th Graders Questions and Answers PDF

Math Worksheets For 8th Graders Questions And Answers PDF

*Disclaimer: The math worksheets for 8th graders questions and answers pdf was generated with the help of StudyBlaze AI. Please be aware that AI can make mistakes. Please consult your teacher if you're unsure about your solution or think there might have been a mistake. Or reach out directly to the StudyBlaze team at [max@studyblaze.io](mailto:max@studyblaze.io).*

### Part 1: Building a Foundation

---

**What is the value of  $2^3$ ?**

*Hint: Think about the definition of exponentiation.*

- A) 6
- B) 8 ✓
- C) 9
- D) 12

■ The value of  $2^3$  is 8.

**Which of the following are properties of a linear function?**

*Hint: Consider the characteristics of linear functions.*

- A) Constant rate of change ✓
- B) Graph is a straight line ✓
- C) Has a maximum point
- D) Can be represented by  $y = mx + b$  ✓

■ Linear functions have a constant rate of change and can be represented by  $y = mx + b$ .

**Explain in your own words what the Pythagorean Theorem is and provide an example.**

*Hint: Think about right triangles and the relationship between the sides.*

**The Pythagorean Theorem states that in a right triangle, the square of the hypotenuse is equal to the sum of the squares of the other two sides.**

**List the steps to solve a system of equations using the substitution method.**

*Hint: Consider how you can isolate a variable.*

1. Step 1

**Isolate one variable.**

2. Step 2

**Substitute into the other equation.**

3. Step 3

**Solve for the remaining variable.**

The steps include isolating one variable, substituting it into the other equation, and solving for the remaining variable.

## Part 2: Comprehension and Application

---

**Which transformation involves flipping a figure over a line?**

Hint: Think about how a mirror image works.

- A) Translation
- B) Rotation
- C) Reflection ✓
- D) Dilation

■ The transformation that involves flipping a figure over a line is called reflection.

**Which of the following are true about rational numbers?**

Hint: Consider the definition of rational numbers.

- A) They can be expressed as a fraction ✓
- B) They include repeating decimals ✓
- C) They are always positive
- D) They can be whole numbers ✓

■ Rational numbers can be expressed as fractions and include whole numbers and repeating decimals.

**If a triangle has sides of 3 cm, 4 cm, and 5 cm, what is the area of the triangle?**

Hint: Use the formula for the area of a triangle.

- A) 6 cm<sup>2</sup> ✓
- B) 12 cm<sup>2</sup>
- C) 10 cm<sup>2</sup>
- D) 8 cm<sup>2</sup>

■ The area of the triangle is 6 cm<sup>2</sup>.

**You have a box of marbles with 5 red, 3 blue, and 2 green marbles. What is the probability of picking a red or blue marble?**

Hint: Consider the total number of marbles.

- A) 1/2
- B) 4/5 ✓
- C) 8/10
- D) 2/5

| The probability of picking a red or blue marble is  $\frac{4}{5}$ .

**Apply the Pythagorean Theorem to find the length of the hypotenuse of a right triangle with legs of 7 cm and 24 cm.**

Hint: Use the formula  $\sqrt{a^2 + b^2 = c^2}$ .

| The length of the hypotenuse is 25 cm.

### Part 3: Analysis, Evaluation, and Creation

---

**Which graph represents a function that is not linear?**

Hint: Think about the shape of the graph.

- A) A straight line
- B) A parabola ✓
- C) A horizontal line
- D) A diagonal line

| A parabola represents a function that is not linear.

**Analyze the following statements and identify which are true about transformations:**

Hint: Consider the effects of each transformation.

- A) A dilation changes the size of a figure ✓
- B) A rotation changes the orientation of a figure ✓
- C) A translation changes the shape of a figure
- D) A reflection changes the size of a figure

| A dilation changes the size of a figure, and a rotation changes its orientation.

Which method would be most efficient for solving the system of equations:  $(2x + 3y = 6)$  and  $(4x - y = 5)$ ?

Hint: Consider the methods for solving systems of equations.

- A) Graphing
- B) Substitution
- C) Elimination ✓
- D) Trial and error

■ The elimination method would be the most efficient for this system.

Create a real-world scenario where you would use the Pythagorean Theorem. Which of the following scenarios apply?

Hint: Think about situations involving right triangles.

- A) Determining the height of a tree using a shadow ✓
- B) Calculating the distance between two points on a map ✓
- C) Finding the area of a rectangle
- D) Designing a triangular garden plot ✓

■ Scenarios include determining the height of a tree using a shadow and designing a triangular garden plot.

Propose a method to teach the concept of linear functions to a peer who is struggling. Include examples and visual aids in your explanation.

Hint: Think about how you can simplify the concept.

■ Use visual aids like graphs and real-life examples to explain linear functions.