

## Grade Six Math Checklist with Examples

Sixth grade focuses on expanding understanding of fractions, decimals, ratios, and measurement, while applying math skills to real-world situations and beginning algebraic reasoning.

### Number Sense and Place Value

- Read and write numbers into the billions
- Use place values to compare, order, and round large numbers
- Understand and compare Roman numerals up to M (1,000)

#### Examples:

- Round 45,692,789 to the nearest million
- What's larger: 800,042 or 802,004?

### Addition and Subtraction

- Add and subtract multi-digit whole numbers and decimals
- Solve complex multi-step word problems
- Estimate to check for reasonable answers

#### Examples:

- $674.39 + 982.62 = ?$
- Estimate:  $6,731 - 2,891 \approx ?$

### Multiplication and Division

- Multiply multi-digit numbers (up to 4 digits  $\times$  2 digits)
- Divide multi-digit numbers by 1- and 2-digit divisors
- Understand and use long division with remainders

#### Examples:

- $426 \times 73 = ?$
- $2,438 \div 17 = ?$

### Fractions and Decimals

- Add, subtract, multiply, and divide fractions
- Convert between improper fractions and mixed numbers
- Understand decimal place value to thousandths
- Perform operations with decimals

**Examples:**

- $2/3 + 4/9 = ?$
- $5.63 \times 3.2 = ?$

**Ratios, Rates, and Percents**

- Understand ratio as a comparison of two values
- Solve problems involving unit rates and proportions
- Convert between fractions, decimals, and percents

**Examples:**

- If 3 pencils cost \$1.50, what's the cost of 1 pencil?
- What is 25% of 120?

**Measurement and Conversions**

- Convert units of measurement (metric and customary)
- Work with time, length, weight, volume, and temperature

**Examples:**

- Convert 5 kilometers to meters
- A recipe calls for 2 quarts of water. How many cups is that?

**Geometry**

- Understand properties of triangles and quadrilaterals
- Calculate area, perimeter, and volume of basic shapes
- Identify angles and measure them with a protractor

**Examples:**

- What's the volume of a box 4 in  $\times$  3 in  $\times$  2 in?
- Measure an angle and classify it as acute, right, or obtuse

**Graphs, Data, and Statistics**

- Interpret bar graphs, line graphs, and circle graphs
- Work with mean, median, mode, and range

**Examples:**

- What is the average number of books read from this data set: 5, 7, 8, 10, 10?
- Create a pie chart for time spent on daily activities.

## **Problem Solving and Algebra Readiness**

- Use variables and expressions to write and solve equations
- Understand the order of operations (PEMDAS)
- Solve real-life problems using logical reasoning

### **Examples:**

- If  $x + 5 = 13$ , what is  $x$ ?
- Which is a better value: 5 apples for \$3 or 9 apples for \$5?

This sixth-grade checklist builds a strong foundation for more advanced math and real-life problem solving in the upper grades.