

## Grade Seven Math Checklist with Examples

Seventh grade prepares students to use all four operations fluently with whole numbers, decimals, and fractions, and helps them build foundational thinking for algebra and more abstract math.

### Number Sense and Properties

- Reinforce place value with whole numbers and decimals
- Review and use properties of operations: commutative, associative, distributive
- Understand integers and their opposites on a number line

#### Examples:

- What is the opposite of -8?
- Show how  $3 \times (4 + 5) = (3 \times 4) + (3 \times 5)$

### Fractions, Decimals, and Percents

- Add, subtract, multiply, and divide fractions and decimals
- Convert between fractions, decimals, and percents
- Solve percent problems involving discounts, tips, and tax

#### Examples:

- Convert 0.75 to a fraction
- What is 20% of \$45?

### Ratios and Proportional Relationships

- Understand and create ratios and proportions
- Solve real-world ratio and proportion problems
- Use cross-multiplication to solve proportions

#### Examples:

- If 3 pencils cost \$1.50, what do 5 cost?
- Is  $12/16$  equivalent to  $3/4$ ?

### Expressions and Equations

- Write and evaluate algebraic expressions
- Use variables to represent unknowns
- Solve one-step and two-step equations

#### Examples:

- Simplify:  $3(x + 4)$
- Solve:  $x - 7 = 13$

### **Geometry**

- Classify angles and triangles
- Calculate area, perimeter, and volume
- Use a protractor to measure and draw angles

### **Examples:**

- Find the area of a triangle with a base of 10 cm and a height of 6 cm
- What type of triangle has angles of  $60^\circ$ ,  $60^\circ$ , and  $60^\circ$ ?

### **Probability and Statistics**

- Collect and organize data
- Calculate mean, median, mode, and range
- Predict outcomes and calculate basic probability

### **Examples:**

- What is the probability of rolling a 4 on a six-sided die?
- Find the median of this data set: 4, 7, 8, 10, 12

### **Problem Solving and Real-Life Math**

- Apply multi-step problem-solving strategies
- Estimate and check solutions for reasonableness
- Use math in practical ways like recipes, shopping, and planning

### **Examples:**

- A recipe uses  $\frac{2}{3}$  cup of sugar. How much is needed for  $1\frac{1}{2}$  recipes?
- You buy 2 shirts for \$15 each and get 10% off. What's the total?

This level prepares students for more formal algebra and geometry by practicing real-life application and foundational concepts.