

## 2014 GED® Test - Mathematical Reasoning Performance Level Descriptors: Performance Level 1

This resource was created by GED Testing Service to help you understand the skills a test-taker needs to score at Performance Level 1 on the 2014 GED® test – Mathematical Reasoning.

Test-takers who score at Performance Level 1 typically have a limited but developing proficiency in demonstrating skills in the following categories: number sense and computation, geometric measurement, data analysis and statistics, and algebraic expressions and functions.

Test-takers who score in this performance level generally demonstrate the following skills:

### **Quantitative problem solving with rational numbers**

- Order fractions and decimals, including on a number line.
- Apply number properties involving multiples and factors at a limited and/or inconsistent level.
- Perform computations with and solve problems using rational numbers at a limited and/or inconsistent level.
- Write and compute with numerical expressions with squares, square roots, cubes, and cube roots of positive, rational numbers at a limited and/or inconsistent level.
- Compute unit rates at a limited and/or inconsistent level.

### **Quantitative problem solving in measurement**

- Compute the area and perimeter of triangles and rectangles, at a limited and/or inconsistent level.
- Determine side lengths of triangles, rectangles when given area or perimeter at a limited and/or inconsistent level.
- Represent, display, and interpret categorical data in tables and scatter plots.

### **Algebraic problem solving with expressions and equations**

- Compute with linear expressions at a limited and/or inconsistent level.
- Evaluate linear expressions.
- Write linear expressions and equations, at a limited and/or inconsistent level, when given written descriptions.
- Compute with polynomials at a limited and/or inconsistent level.
- Solve algebraic and real-world problems involving linear equations at a limited and/or inconsistent level.
- Solve real-world problems with inequalities at a limited and/or inconsistent level.

### **Algebraic problem solving with graphs and functions**

- Locate points in the coordinate plane at a limited and/or inconsistent level.
- Determine the slope of a line from a graph, equation, or table at a limited and/or inconsistent level.
- Interpret unit rate as the slope in a proportional relationship.

- For a linear or nonlinear relationship, sketch graphs and interpret key features of graphs and tables in terms of quantities at a limited and/or inconsistent level.
- Represent or identify a function in a table or graph as having exactly one output for each input.
- Evaluate linear and quadratic functions.

In order to progress to Performance Level 2, test-takers need to continue to strengthen the skills listed in Performance Level 1, including:

- Apply number properties involving multiples and factors.
- Perform computations with and solve problems using rational numbers.
- Write and compute with numerical expressions with squares, square roots, cubes, and cube roots of positive, rational numbers.
- Compute unit rates.
- Compute the area and perimeter of triangles and rectangles.
- Determine side lengths of triangles and rectangles when given area or perimeter.
- Compute with linear expressions and polynomials.
- Write linear expressions and equations, when given written descriptions.
- Evaluate linear expressions.
- Solve algebraic and real-world problems involving linear equations and inequalities.
- Locate points in the coordinate plane.
- Determine the slope of a line from a graph, equation, or table.
- For a linear or nonlinear relationship, sketch graphs and interpret key features of graphs and tables in terms of quantities.

And develop the following skills:

- Simplify numerical expressions with rational exponents.
- Identify absolute value of a rational number as its distance from 0 on the number line and determine the distance between two rational numbers on the number line.
- Determine when a numerical expression is undefined.
- Use scale factors to determine the magnitude of a size change, and convert between actual drawings and scale drawings.
- Compute the area and circumference of circles.
- Compute volume and surface area of 3-dimensional figures.
- Solve for height, radius, diameter, or side lengths of 3-dimensional figures, when given volume or surface area at a satisfactory level.
- Represent, display, and interpret categorical data in bar graphs, circle graphs, dot plots, histograms, and box plots.
- Calculate the median, mode, and weighted average, and calculate a missing data value, given the average and all the missing data values but one at a satisfactory level.
- Compute with rational expressions.
- Solve algebraic and real-world problems involving linear and quadratic equations and systems of linear equations.
- Graph linear equations in the coordinate plane.
- Write the equation of a line when given the slope and a point or two distinct points.
- Use slope to identify parallel and perpendicular lines and to solve geometric problems.