2014 GED® Test - Mathematical Reasoning
Performance Level Descriptors: Performance Level 2

This resource was created by GED Testing Service to help you understand the skills a test-taker needs to score at Performance Level 2 on the 2014 GED® test – Mathematical Reasoning.

Test-takers who score at Performance Level 2 typically demonstrate a satisfactory 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 skills identified in Performance Level 1 as well as the following skills:

Quantitative problem solving with rational numbers
- Apply number properties involving multiples and factors at a satisfactory level.
- 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.
- Solve real-world problems using rational numbers at a satisfactory level.
- Determine when a numerical expression is undefined.
- Write and compute with numerical expressions with squares, square roots, cubes, and cube roots of positive, rational numbers at a satisfactory level.
- Compute unit rates at a satisfactory level.
- Use scale factors to determine the magnitude of a size change, and convert between actual drawings and scale drawings.
- Solve two-step, arithmetic, real world problems involving ratios and proportions.

Quantitative problem solving in measurement
- Compute the area and perimeter of triangles, rectangles, and polygons.
- Determine side lengths of triangles, rectangles, and polygons when given area or perimeter.
- Use the Pythagorean theorem to determine unknown side lengths in a right triangle.
- Compute volume and surface area of cylinders, cones, right pyramids, at a satisfactory level.
- Solve for height, radius, diameter, or side lengths of cylinders, cones, and right pyramids, 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.
- Use counting techniques to solve problems and determine combinations and permutations at a satisfactory level.

Algebraic problem solving with expressions and equations
- Compute with and factor polynomials at a satisfactory level.
- Evaluate linear and polynomial expressions.
- Write linear, polynomial, and rational expressions, and linear and quadratic equations given written descriptions, at a satisfactory level.
- Compute with linear and rational expressions, at a satisfactory level.
- Solve real-world problems involving linear equations at a satisfactory level.
- Solve algebraic and real-world problems involving a system of two linear equations.
- Solve real-world problems involving inequalities and graph solutions on a number line at a satisfactory level.
- Solve quadratic equations in one variable with real solutions at a satisfactory level.

Algebraic problem solving with graphs and functions
- Locate points and graph linear equations in the coordinate plane at a satisfactory level.
- Determine the slope of a line from a graph, equation, or table at a satisfactory level.
- For a linear or nonlinear relationship, sketch graphs and interpret key features of graphs and tables in terms of quantities at a satisfactory level.
- Write the equation of a line when given the slope and a point or two distinct points at a satisfactory level.
- Use slope to identify parallel and perpendicular lines and to solve geometric problems at a satisfactory level.
- Compare two different proportional relationships each represented in different ways at a satisfactory level.

In order to progress to Performance Level 3, test-takers need to strengthen the skills listed in Performance Level 1 and Performance Level 2, including:
- Use scale factors to determine the magnitude of a size change, and convert between actual drawings and scale drawings.
- Solve two-step, arithmetic, real world problems involving ratios, proportions, and percents.
- Use counting techniques to solve problems and determine combinations and permutations.
- Write linear expressions given written descriptions.
- Solve inequalities.
- Use slope to identify parallel and perpendicular lines and to solve geometric problems.
- Compare two different proportional relationships or two linear or quadratic functions each represented in different ways.

And develop the following skills:
- Compute the area and perimeter of composite figures.
- Determine the probability of simple and compound events.