

# GED<sup>®</sup> Test: Mathematical Reasoning Performance Level Descriptors What Your Score Means: Level 1 — Below Passing

Test-takers who score at this level 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 at the Below Passing level typically demonstrate the following skills:

## Quantitative Problem Solving with Rational Numbers

- Apply number properties involving multiples and factors at a limited and inconsistent level
- Solve real-world problems using rational numbers at a limited and inconsistent level
- Compute unit rates at a limited and inconsistent level

## Quantitative Problem Solving in Measurement

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

## Algebraic Problem Solving with Expressions and Equations

- Evaluate linear expressions
- Write linear expressions to represent context at a limited and inconsistent level
- Evaluate polynomial expressions at a limited and inconsistent level
- Write rational expressions to represent context at a limited and inconsistent level
- Solve real-world problems involving linear equations at a limited and inconsistent level
- Solve algebraic and real-world problems involving systems of equations

## Algebraic Problem Solving with Graphs and Functions

- Locate and plot points in the coordinate plane

- Interpret unit rate as the slope in a proportional relationship at a limited and inconsistent level
- For a linear or nonlinear relationship, sketch graphs and interpret key features of graphs and tables in terms of quantities
- Compare two different proportional relationships, each represented in different ways, at a limited and inconsistent level
- Represent or identify a function in a table or graph as having exactly one output for each input at a limited and inconsistent level
- Evaluate linear and quadratic functions at a limited and inconsistent level

In order to progress to the **Pass/High School Equivalency** level, test-takers need to:

1) continue to **strengthen** the skills listed in the Below Pass level, including:

- Apply number properties involving multiples and factors
- Solve real-world problems using 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
- Write linear expressions to represent context
- Evaluate polynomial expressions
- Write rational expressions to represent context
- Solve real-world problems involving linear equations
- Interpret unit rate as the slope in a proportional relationship
- Compare two different proportional relationships, each represented in different ways
- Represent or identify a function in a table or graph as having exactly one output for each input
- Evaluate linear and quadratic functions

and

2) develop the following additional skills:

- Order fractions and decimals, including on a number line
- 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
- Perform computations with rational numbers
- Compute numerical expressions with squares and square roots of positive, rational numbers
- Compute numerical expressions with cubes and cube roots of positive, rational numbers
- 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
- Solve arithmetic and real-world problems involving ratios and proportions a satisfactory level
- Solve multi-step arithmetic and real-world problems involving percents
- Compute the area and circumference of circles
- Determine the radius and diameter of circles when given area or circumference
- Compute the area and perimeter of polygons

- Determine side lengths of polygons when given area or perimeter
- Compute the area and perimeter of composite figures
- Use the Pythagorean theorem to determine unknown side lengths in a right triangle
- Compute volume and surface area of rectangular prisms
- Determine side lengths and height of rectangular prisms when given volume or surface area
- Compute volume and surface area of cylinders
- Determine radius, diameter, and height of cylinders, when given volume or surface area
- Compute volume and surface area of right prisms
- Determine side lengths and height of right prisms when given volume or surface area
- Determine side lengths and height of right pyramids and cones when given volume or surface area
- Compute volume and surface area of spheres
- Determine radius and diameter of spheres when given volume or surface area
- Compute volume and surface area of composite figures
- Represent, display, and interpret categorical data in 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
- Use counting techniques to solve problems and determine combinations and permutations
- Compute with linear expressions
- Write linear expressions to represent context
- Evaluate linear expressions
- Compute with polynomials
- Factor polynomial expressions
- Write polynomial expressions to represent context
- Evaluate rational expressions
- Solve linear equations in one variable
- Write linear equations to represent context
- Solve linear inequalities in one variable
- Identify or graph the solution to a one variable linear inequality on a number line
- Solve real-world problems involving inequalities
- Write linear equations to represent context
- Solve quadratic equations in one variable
- Write quadratic equations to represent context
- Determine the slope of a line from a graph, equation, or table
- Graph two-variable linear equations
- Write the equation of a line with a given slope through a given point
- Write the equation of a line passing through two given distinct points
- Use slope to identify parallel and perpendicular lines and to solve geometric problems
- Compare two different linear or quadratic functions, each represented in different ways