GED® Test: Mathematical Reasoning Performance Level Descriptors What Your Score Means: Level 2 — Pass/High School Equivalency

Test-takers who score at this level typically have 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 are generally able to demonstrate knowledge of and ability with the skills identified in the Below Passing level at a satisfactory level as well as 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 satisfactory level
- Simplify numerical expressions with rational exponents at a satisfactory level
- 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, at a satisfactory level
- Perform computations with rational numbers
- Compute numerical expressions with squares and square roots of positive, rational numbers at a satisfactory level
- Compute numerical expressions with cubes and cube roots of positive, rational numbers
- Determine when a numerical expression is undefined at a satisfactory level
- Solve real-world problems using 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 arithmetic and real-world problems involving ratios and proportions a satisfactory level
- Solve multi-step arithmetic and real-world problems involving percents

Quantitative Problem Solving in Measurement

- Compute the area and perimeter of triangles and rectangles at a satisfactory level
- Determine side lengths of triangles and rectangles when given area or perimeter at a satisfactory level
- 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 at a satisfactory level
- 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 at a satisfactory level
- Determine radius, diameter, and height of cylinders, when given volume or surface area, at a satisfactory level
- Compute volume and surface area of right prisms
- Determine side lengths and height of right prisms when given volume or surface area
- Compute volume and surface area of right pyramids and cones
- Determine side lengths, radius, diameter, 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 at a satisfactory level
- 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 at a satisfactory level

Algebraic Problem Solving with Expressions and Equations

- Compute with linear expressions
- Write linear expressions to represent context at a satisfactory level
- Compute with polynomials at a satisfactory level
- Evaluate polynomial expressions at a satisfactory level
- Factor polynomial expressions at a satisfactory level
- Write polynomial expressions to represent context
- Evaluate rational expressions
- Write rational expressions to represent context at a satisfactory level
- Solve linear equations in one variable
- Solve real-world problems involving linear equations at a satisfactory level
- Write linear equations to represent context
- Solve linear inequalities in one variable at a satisfactory level
- Identify or graph the solution to a one variable linear inequality on a number line
- Solve real-world problems involving inequalities at a satisfactory level
- Write linear equations to represent context at a satisfactory level
- Solve quadratic equations in one variable at a satisfactory level
- Write quadratic equations to represent context

Algebraic Problem Solving with Graphs and Functions

- Determine the slope of a line from a graph, equation, or table at a satisfactory level
- Interpret unit rate as the slope in a proportional relationship at a satisfactory level
- Graph two-variable linear equations at a satisfactory level
- Write the equation of a line with a given slope through a given point at a satisfactory level
- 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 at a satisfactory level
- Compare two different proportional relationships, each represented in different ways, at a satisfactory level
- Represent or identify a function in a table or graph as having exactly one output for each input at a satisfactory level
- Evaluate linear and quadratic functions at a satisfactory level
- Compare two different linear or quadratic functions, each represented in different ways, at a satisfactory level

In order to progress to the **GED® College Ready** level, test-takers need to:

1) continue to **strengthen** the skills listed in the Below Pass and the Pass/High School Equivalency levels, including:
   - 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
   - Compute numerical expressions with squares and square roots of positive, rational numbers
   - Determine when a numerical expression is undefined
   - Solve real-world problems using rational numbers
   - Solve arithmetic and real-world problems involving ratios and proportions
   - Use the Pythagorean theorem to determine unknown side lengths in a right triangle
   - 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 composite figures
   - Use counting techniques to solve problems and determine combinations and permutations
   - Compute with polynomials
   - Factor polynomial expressions
   - Solve linear inequalities in one variable
   - Solve real-world problems involving inequalities
   - Write linear inequalities to represent context
   - Solve quadratic equations in one variable
   - 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
   - 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

and

2) develop the following skills:

- Use counting techniques to solve problems and determine combinations and permutations
- Compute with rational expressions