

## 2014 GED® Test Free Practice Test Companion

Now that you have viewed or taken the 2014 GED® Free Practice Test, the information in this Companion will help you understand what content is covered on each content area section of the 2014 GED® test. In addition, the Companion identifies what skill is tested by each question on the Free Practice Test to help you in preparing for the 2014 GED® test.

### Mathematical Reasoning

The 2014 GED® Mathematical Reasoning test covers all of the skills listed in the left column below. Not every test form will contain every skill that is listed, but each skill is considered “fair game” to appear on the test. Each test form, however, will be made up of a consistent percentage of test questions in each of the four major skill areas that make up the test. The right column shows what is tested by each question on the 2014 GED® Free Practice Test.

Mathematical Reasoning Skill Areas	Question Numbers
<b><u>Mathematical Reasoning Skill Area 1: Quantitative problem solving with rational numbers</u></b> <b>(25% of the 2014 GED® Mathematical Reasoning test)</b>	
Place fractions and decimals in order, including when using a number line	
Apply number properties that involve multiples and factors	
Simplify numerical expressions with rational exponents	
Identify the absolute value of a rational number as its distance from 0 on the number line and find the distance between two rational numbers on the number line	
Compute with rational numbers and solve problems with rational numbers	
Write and compute with numerical expressions with squares, square roots, cubes, and cube roots of positive, rational numbers	
Determine when a numerical expression is undefined	
Compute unit rates	1
Use scale factors to figure out the magnitude of a size change and convert between actual drawings and scale drawings	
Solve two-step, arithmetic, real-world problems that involve ratios, proportions, and percents	4

<b><u>Mathematical Reasoning Skill Area 2: Quantitative problem solving in measurement</u></b> <b>(20% of the 2014 GED® Mathematical Reasoning test)</b>	
Compute the area and perimeter of various shapes: triangles, rectangles, polygons, and composite figures	
Find the side lengths of triangles, rectangles, and polygons when given the area or perimeter	
Compute the area and circumference of circles and find the radius or diameter when given the area or circumference	
Use the Pythagorean theorem ( $a^2 + b^2 = c^2$ ) to determine unknown side lengths in a right triangle	
Compute volume and surface area of right prisms and pyramids, cylinders, spheres, cones, and composite figures	7, 9
Solve for height, radius, diameter, or side lengths of cylinders, cones, and right pyramids, when given the volume or surface area	
Represent, display, and interpret categorical data in bar graphs, circle graphs, dot plots, histograms, box plots, tables, and scatter plots	
Calculate the mean, median, mode, range, 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 find combinations and permutations	
Find the probability of simple and compound events	
<b><u>Mathematical Reasoning Skill Area 3: Algebraic problem solving with expressions and equations</u></b> <b>(30% of the 2014 GED® Mathematical Reasoning test)</b>	
Compute with linear expressions	
Evaluate linear, polynomial, and rational expressions	2
Create quadratic equations and linear expressions, equations, and inequalities with written descriptions you have been given	3, 10
Compute with and factor polynomials	
Compute with rational expressions	
Create rational expressions with written descriptions you have been given	
Solve algebraic and real-world problems that involve linear equations	
Solve algebraic and real-world problems that involve a system of two linear equations	
Solve arithmetic and real-world problems with inequalities and graph solutions on a number line	
Solve quadratic equations in one variable	
<b><u>Mathematical Reasoning Skill Area 4: Algebraic problem</u></b>	

<b><u>solving with graphs and functions</u></b> <b>(25% of the 2014 GED® Mathematical Reasoning test)</b>	
Locate points and graph linear equations on the coordinate plane	5
Find the slope of a line from a graph, equation or table	
Understand that a unit rate is equivalent to 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	8
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	6
Use slope to identify parallel and perpendicular lines, and to solve geometric problems	
Compare two different proportional relationships OR two linear or quadratic functions when each is represented in different ways	
Using a table or graph, represent or identify a function as having exactly one output for each input	
Evaluate linear and quadratic functions	