

Threshold Achievement Level Descriptors Grade 7 Mathematics

The student who just enters Level 2 should be able to:	
<p>CONCEPTS AND PROCEDURES</p> <p>Target A: Ratios and Proportional Relationships</p>	<ul style="list-style-type: none"> • Identify proportional relationships presented in equation formats and find unit rates involving whole numbers.
<p>CONCEPTS AND PROCEDURES</p> <p>Target B: The Number System</p>	<ul style="list-style-type: none"> • Convert between familiar fractions and decimals.
<p>CONCEPTS AND PROCEDURES</p> <p>Targets C and D: Expressions and Equations</p>	<ul style="list-style-type: none"> • Apply properties of operations to expand linear expressions with integer coefficients. • Solve multi-step problems with decimal numbers. • Solve equations in the form of $px + q = r$, where p, q, and r are decimal numbers.
<p>CONCEPTS AND PROCEDURES</p> <p>Targets E and F: Geometry</p>	<ul style="list-style-type: none"> • Describe geometric shapes with given conditions. • Use vertical angles expressed as numerical measurements to solve problems. • Calculate the area of a circle when the formula is provided and the area of quadrilaterals.
<p>CONCEPTS AND PROCEDURES</p> <p>Targets G, H, and I: Statistics and Probability</p>	<ul style="list-style-type: none"> • Determine whether or not a sample is random. • Find the range of a set of data about a given population. • Approximate the probability of a chance event by collecting data.
<p>PROBLEM SOLVING & MODELING AND DATA ANALYSIS</p>	<ul style="list-style-type: none"> • Select tools to solve a familiar and moderately scaffolded problem and apply them with partial accuracy. • Use the necessary elements given in a problem situation to solve a problem. • Apply mathematics to propose solutions by identifying important quantities and by locating missing information from relevant external resources.
<p>COMMUNICATING REASONING</p>	<ul style="list-style-type: none"> • Find and identify the flaw in an argument.

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The student who just enters Level 3 should be able to:	
<p>CONCEPTS AND PROCEDURES Target A: Ratios and Proportional Relationships</p>	<ul style="list-style-type: none"> • Represent proportional relationships in graphs and tables and solve one-step rate-related problems.
<p>CONCEPTS AND PROCEDURES Target B: The Number System</p>	<ul style="list-style-type: none"> • Solve mathematical problems using addition, subtraction, and multiplication on rational numbers. • Understand that $(-1)(-1) = 1$. • Convert common fractions and fractions with denominators that are a factor of a power of 10 to decimals.
<p>CONCEPTS AND PROCEDURES Targets C and D: Expressions and Equations</p>	<ul style="list-style-type: none"> • Add, subtract, and factor linear expressions with decimal coefficients. • Graph the solution set to a given inequality in the form of $x > p$ or $x < p$, where p is a rational number. • Understand that rewriting an expression can shed light on how quantities are related in a familiar problem-solving context with a moderate degree of scaffolding. • Use variables to reason with quantities in real-world and mathematical situations with a high degree of scaffolding.
<p>CONCEPTS AND PROCEDURES Targets E and F: Geometry</p>	<ul style="list-style-type: none"> • Create a scale drawing of a given figure when a scale factor is given. • Determine the surface area of a right prism. • Use vertical angles expressed as variables to solve two-step problems.
<p>CONCEPTS AND PROCEDURES Targets G, H, and I: Statistics and Probability</p>	<ul style="list-style-type: none"> • Use random sampling to draw inferences about a population in familiar contexts. • Informally assess the degree of visual overlap of two numerical data distributions. • Calculate the theoretical probability of a compound event.
<p>PROBLEM SOLVING & MODELING AND DATA ANALYSIS</p>	<ul style="list-style-type: none"> • Use appropriate tools to accurately solve problems arising in everyday life, society, and the workplace. • Apply mathematics to solve problems by identifying important quantities and mapping their relationship and by stating and using logical assumptions.
<p>COMMUNICATING REASONING</p>	<ul style="list-style-type: none"> • Use stated assumptions, definitions, and previously established results and examples to identify and repair a flawed argument. • Use previous information to support his or her own reasoning on a routine problem.

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The student who just enters Level 4 should be able to:	
<p>CONCEPTS AND PROCEDURES Target A: Ratios and Proportional Relationships</p>	<ul style="list-style-type: none"> • Solve real-world problems involving proportional relationships that require one step with measurement conversions.
<p>CONCEPTS AND PROCEDURES Target B: The Number System</p>	<ul style="list-style-type: none"> • Solve real-world problems with integers and proper fractions, using addition, multiplication, subtraction, and division.
<p>CONCEPTS AND PROCEDURES Targets C and D: Expressions and Equations</p>	<ul style="list-style-type: none"> • Construct inequalities with two variables to solve problems.
<p>CONCEPTS AND PROCEDURES Targets E and F: Geometry</p>	<ul style="list-style-type: none"> • Describe the two-dimensional figures that result from slicing spheres and cones.
<p>CONCEPTS AND PROCEDURES Targets G, H, and I: Statistics and Probability</p>	<ul style="list-style-type: none"> • Generate multiple samples (or simulated samples) of the same size. • Determine which measures of variability should be used to draw informal comparative inferences about two populations. • Construct a simulation experiment and generate frequencies for compound events.
<p>PROBLEM SOLVING & MODELING AND DATA ANALYSIS</p>	<ul style="list-style-type: none"> • Analyze and interpret the context of an unfamiliar situation for problems of increasing complexity. • Begin to solve problems optimally. • Construct multiple plausible solutions and approaches.
<p>COMMUNICATING REASONING</p>	<ul style="list-style-type: none"> • Begin to construct chains of logic about abstract concepts autonomously.