Grade 7 Mathematics Performance Level Descriptors

Advanced: Students demonstrate superior performance on challenging subject matter. In addition to demonstrating a broad and in-depth understanding and application of all skills at the Proficient level, students scoring at the **Advanced** level typically interpret equations and inequalities involving variables and rational numbers. Students make connections between circumference and area to solve problems involving circles. Students analyze, apply, and display the effect of dilations and multiple transformations. Students use central tendencies and range, predict data and select an appropriate data display, and predict theoretical probability. Students solve complex and non-routine real-world problems, draw logical conclusions, and justify solutions.

Proficient: Students demonstrate mastery over appropriate grade-level subject matter and readiness for the next grade level. Students scoring at the **Proficient** level typically estimate solutions of problems involving rational numbers and assess the reasonableness of the solutions. Students differentiate between proportional and inversely proportional relationships and identify the constant of proportionality. Students represent proportional relationships in a variety of ways. Students use representations to identify and compare unit rates. Students solve problems involving proportional relationships and assess the reasonableness of solutions. Students represent, solve, and write equations. Students solve simple inequalities. Students generate and evaluate equivalent expressions with justification of steps. Students interpret theoretical probability and draw conclusions. Students apply the effect of dilations and transformations. Students solve real-world problems and employ problem-solving strategies of identifying and using appropriate information.

Basic: Students demonstrate partial mastery of the essential knowledge and skills appropriate to their grade level. Students scoring at the **Basic** level recognize, compare, and order rational numbers. Students create equivalent representations of rational numbers. Students calculate and model mathematical problems involving rational numbers and exponents. Students calculate the absolute value of a rational number. Students describe and identify a proportional relationship. Students identify and solve problems involving ratios and unit rates. Students represent, solve, and write simple equations. Students represent, write, and graph simple inequalities. Students evaluate expressions using the order of operations. Students determine the surface area and volume of rectangular prisms and calculate the area and perimeter of trapezoids. Students calculate the circumference and area of circles. Students describe the effect of dilations and transformations. Students calculate the measures of central tendencies and range and determine appropriate data displays. Students calculate theoretical probability.

Below Basic: Students have not performed at least at the Basic level. Students scoring at the **Below Basic** level should be given comprehensive mathematical instruction.

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