

## Grade 8 OMAAP Mathematics Performance Level Descriptors (PLDs)

**Advanced:** Students consistently demonstrate an understanding of the knowledge and skills expected of students at this grade. In addition to demonstrating an understanding and application of all modified skills at the Satisfactory level, students scoring at the Advanced level typically use a range of strategies to solve problems, regularly use various types of reasoning, connect one area or idea of mathematics to another, and communicate mathematical ideas.

**Satisfactory:** Students demonstrate a general understanding of the mathematics knowledge skills and processes expected of students at this grade. Students scoring at the Satisfactory level typically will:

- Model, write, and solve multi-step linear equations with one variable to solve application problems.
- Graph and interpret the solution to one- and two-step linear equations with one or two variables.
- Predict the effect on the graph of a linear equation when the slope or y-intercept changes.
- Apply appropriate formulas to solve problems.
- Model, write, solve, and graph one- and two-step linear inequalities with one variable.
- Represent and interpret large numbers and numbers less than one in exponential and scientific notation.
- Use the rules of exponents, including integer exponents, to solve problems.
- Solve problems using scientific notation.
- Simplify numerical expressions with rational numbers, exponents, and parentheses using order of operations.
- Construct models, sketch (from different perspectives), and classify solid figures.
- Develop and apply the Pythagorean Theorem.
- Develop and apply formulas to find surface area and volume.
- Apply knowledge of ratio and proportion to solve relationships between similar geometric figures.
- Find the area of a “region of a region” for simple composite figures and the area of cross sections of regular geometric solids.
- Select, analyze and apply data displays in appropriate formats to draw conclusions and solve problems.
- Find the measures of central tendency of a set of data and understand why a specific measure provides the most useful information in a given context.

**Limited Knowledge:** Students demonstrate partial understanding of the mathematics knowledge, processes, and skills expected of students at this grade. Students scoring at the Limited knowledge level have difficulty and are inconsistent in applying the general knowledge and mathematical process skills at the Satisfactory level necessary to solve problems effectively and reason mathematically.

**Unsatisfactory:** Students do not demonstrate at least a Limited knowledge of the skills expected of students at this grade. Students scoring at the Unsatisfactory level should be given additional comprehensive mathematics instruction.