

## **Grade 10 Mathematics ISAT Proficiency Level Descriptors**

### **Advanced**

Tenth grade students typically performing at the Advanced level consistently demonstrate a thorough understanding of grade-level mathematics. They use algebraic properties and the numeration system, measurement concepts related to a variety of two- and three-dimensional figures, rates, proportions, ratios, scale factors, and map scales in challenging situations, logic to make and evaluate more involved mathematical arguments, and probability concepts involving complex situations in order to solve real-world problems. Students model real-world situations using challenging geometric concepts and data displays. Students show the ability to consistently perform challenging calculations, convert units of measurement, solve complex equations, inequalities, and systems of equations, apply the Pythagorean theorem, and make predictions as a way to demonstrate their understanding of the relationships between mathematics and the world around them.

### **Proficient**

Tenth grade students typically performing at the Proficient level demonstrate a general understanding of grade-level mathematics. They use algebraic properties and the numeration system, measurement concepts related to two- and three-dimensional figures, rates, proportions, ratios, scale factors, and map scales, logic to make and evaluate mathematical arguments, and theoretical and experimental probability in order to solve real-world problems. Students model real-world situations using geometric concepts, linear and non-linear relationships, and data displays. Students show the ability to adequately perform calculations, apply dimensional analysis, distinguish between various attributes of the Cartesian coordinate system, represent, simplify, and solve equations, inequalities, and systems of equations, use the Pythagorean theorem, and make predictions as a way to demonstrate their understanding of the relationships between mathematics and the world around them.

### **Basic**

Tenth grade students typically performing at the Basic level demonstrate a limited understanding of grade-level mathematics. They demonstrate limited use of algebraic properties and the numeration system, measurement concepts related to simple two- and three-dimensional figures, rates, proportions, ratios, scale factors, and map scales, and rudimentary concepts of probability involving common situations in an attempt to solve real-world problems. Students model basic real-world situations using some geometric concepts and simple data displays. Students show the ability to perform simple calculations, convert some units of measurement, recognize some attributes of the Cartesian coordinate system, and represent, simplify, and solve some simple equations and inequalities in an attempt to demonstrate their understanding of the relationships between mathematics and the world around them.