

Grade 8 Mathematics ISAT Proficiency Level Descriptors

Advanced

Eighth grade students typically performing at the Advanced level consistently demonstrate a thorough understanding of grade-level mathematics. They use the numeration system and estimation, measurement concepts related to two- and three-dimensional figures, rates, proportions, ratios, and map scales in challenging situations, complex numeric and algebraic expressions, and probability concepts involving complex situations in order to solve real-world problems. Students model real-world situations using challenging patterns in multiple formats, geometric concepts, and data displays. Students show the ability to consistently perform challenging calculations, convert units of measurement, and solve complex equations and inequalities as a way to demonstrate their understanding of the relationships between mathematics and the world around them.

Proficient

Eighth grade students typically performing at the Proficient level demonstrate a general understanding of grade-level mathematics. They use the numeration system and estimation, measurement concepts related to two- and three-dimensional figures, rates, proportions, ratios, and map scales, numeric and algebraic expressions, and theoretical and experimental probability in order to solve real-world problems. Students model real-world situations using patterns, geometric concepts, and data displays. Students show the ability to adequately perform calculations, convert units of measurement, work with dimensional analysis, plot points on a coordinate grid, solve equations and inequalities, and determine statistical measures as a way to demonstrate their understanding of the relationships between mathematics and the world around them.

Basic

Eighth grade students typically performing at the Basic level demonstrate a limited understanding of grade-level mathematics. They demonstrate limited use of the numeration system, measurement concepts related to two- and three-dimensional figures, proportions, ratios, and map scales, simple numeric and algebraic expressions, and rudimentary concepts of probability in an attempt to solve real-world problems. Students model basic real-world situations using simple patterns, some geometric concepts, and simple data displays. Students show the ability to perform simple calculations, convert some units of measurement, plot some points on a coordinate grid, solve some equations and inequalities, and determine simple statistical measures in an attempt to demonstrate their understanding of the relationships between mathematics and the world around them.