

Grade 9 Math Proficiency Level Descriptors

Advanced

The student displays a highly developed understanding of high-level concepts involving numbers, inverse operations, exponents, operational relationships, and complex number theory; complicated problems involving equivalent measures between systems; methods and computation required to solve sophisticated problems and equations in various forms; multifaceted patterns; challenging geometric relationships; volume and surface area of complex shapes; and the representation and uses of data in multiple formats.

Proficient

The student demonstrates conceptual understanding of real numbers, exponents, mathematical operations, and number theory; equivalent measures between systems; measurement techniques involving indirect methods; using estimation strategies; describing, extending, and generalizing patterns and functions; computation involving the four basic operations, ratio, and proportion; modeling and solving equations in various forms; properties of angles and circles; volume and surface area; solving problems using the coordinate plane; classification, organization, and analysis of data; and probability.

Below Proficient

The student shows minimal understanding of concepts involving numbers, mathematical operations, number theory, and basic equivalent measures within systems; solving simple problems involving arithmetic computation; extending uncomplicated patterns; familiar geometric concepts; rudimentary problems involving volume and surface area; and the display and uses of straightforward sets of data.

Far Below Proficient

There is a significant need for additional instructional opportunities to achieve the proficient level.