

MATHEMATICS YEAR-VIII

Number System

- Understanding and comparing rational and irrational numbers Understanding and performing operations with rational and irrational numbers
- Understanding and using the properties of integer exponents Understanding and using the laws of exponents to simplify expressions
- Understanding and performing operations with scientific notation Understanding and using irrational numbers to solve problems involving geometric shapes

Expressions and Equations

- Understanding and using functions to model relationships between quantities
- Understanding and solving problems with linear equations and systems of linear equations
- Understanding and solving problems with nonlinear equations and systems of nonlinear equations
- Understanding and using the Pythagorean theorem and the distance formula to solve problems

Functions


- Understanding and interpreting functions represented numerically, graphically, and symbolically
- Understanding and using functions to model real-world situations
- Understanding and using inverse functions

Geometry

- Understanding and applying the properties of congruent and similar figures
- Understanding and using the Pythagorean theorem to find the distance between two points
- Understanding and using the properties of circles to find circumference, area, and arc length


Statistics and Probability

- Understanding and using statistical measures to describe and compare data
- Understanding and using scatterplots to analyze data
- Understanding and calculating probability of events



Mathematical Practices

- Developing effective problem-solving strategies and applying them to real-world and mathematical problems
- Developing effective communication and collaboration skills
- Developing effective critical thinking and reasoning skills



Advanced Functions

- Understanding and using linear and nonlinear functions to model real-world situations
- Understanding and solving problems with systems of linear and nonlinear equations
- Understanding and graphing quadratic functions