

8<sup>th</sup> Grade Mathematics Syllabus  
Trenton Rosenwald Middle School  
2024-2025

CASE Test 1 – September 24-27, 2024

- Unit 1 – Geometric Figures: Rigid Transformations and Congruence
  - Lesson 1 – Understanding Rigid Transformations and their Properties
  - Lesson 2 – Work with Single Rigid Transformations in the Coordinate Plane
  - Lesson 3 – Work with Sequences of Transformations and Congruence
- Unit 2 – Geometric Figures: Transformations, Similarity, and Angle Relationships
  - Lesson 4 – Understanding Dilations and Similarity
  - Lesson 5 – Perform and Describe Transformations Involving Dilations
  - Lesson 6 – Describe Angle Relationships
  - Lesson 7 – Describe Angle Relationships in Triangles

CASE Test 2 – January 13-22, 2025

- Unit 3 – Linear Relationships: Slope, Linear Equations, and Systems
  - Lesson 8 – Graph Proportional Relationships and Define Slope
  - Lesson 9 – Derive and Graph Linear Equations of the Form  $y = mx + b$
  - Lesson 10 – Solve Linear Equations in One Variable
  - Lesson 11 – Determine the Number of Solutions to One-Variable Equations
  - Lesson 12 – Understand Systems of Linear Equations in Two Variables
  - Lesson 13 - Solve Systems of Linear Equations Algebraically
  - Lesson 14 – Represent and Solve Problems with Systems of Linear Equations
- Unit 4 – Functions: Linear and Non-Linear Relationships
  - Lesson 15 – Understand Functions
  - Lesson 16 – Use Functions to Model Linear Relationships
  - Lesson 17 – Compare Different Representations of Functions
  - Lesson 18 – Analyze Graphs of Functional Relationships Qualitatively

CASE Test 3 – March 10-21, 2025

- Unit 5 – Integer Exponents: Properties and Scientific Notation
  - Lesson 19 – Apply Exponent Properties for Positive Integer Exponents
  - Lesson 20 – Apply Exponent Properties for All Integer Exponents
  - Lesson 21 – Express Numbers Using Integer Powers of 10
  - Lesson 22 – Work with Scientific Notation
- Unit 6 – Real Numbers: Rational Numbers, Irrational Numbers, and the Pythagorean Theorem
  - Lesson 23 – Find Square Roots and Cube Roots to Solve Problems
  - Lesson 24 – Express Rational Numbers as Fractions and Decimals
  - Lesson 25 – Find Rational Approximations of Irrational Numbers
  - Lesson 26 – Understand the Pythagorean Theorem and Its Converse
  - Lesson 27 – Apply the Pythagorean Theorem
  - Lesson 28 – Solve Problems with Volumes of Cylinders, Cones, and Spheres
- Unit 7 – Statistics: Two-Variable Data and Fitting a Linear Model
  - Lesson 29 – Analyze Scatter Plots and Fit a Linear Model to Data
  - Lesson 30 – Write and Analyze an Equation for Fitting a Linear Model to Data