

Mathematics

Syllabus



Course Description

In 8th Grade Math Part 2, students will learn about the tools for understanding special equations, working with exponents including the use of scientific notations, calculating the volume of 3-dimensional figures, working with triangles in math, and using basic statistics.

This course has been divided into four main units:

- Unit 1: Review and Special Equations
- Unit 2: Exponents and Roots
- Unit 3: Volume and Triangles
- Unit 4: Statistics

Prerequisites

There are no prerequisites for this course.

It is recommended, but not required, that students take 8th-Grade Math Part 1 prior to taking this course.

Course Materials

No textbooks are required for this course; all content can be found within the course lesson pages. Students may use a handheld graphing or scientific calculator or a Desmos online calculator (found at desmos.com/scientific or desmos.com/calculator only) during the final exam; no other calculator is allowed.

Due Dates

The due dates in the course are only suggestions to help the students pace themselves. You do *not* need to complete assignments, quizzes, and exams by the due date set in the course.



Course Outcomes

As students complete the course assignments, they will increase their knowledge, improve a twenty-first-century skill, and develop an attribute.



Knowledge

Knowledge: 8th-Grade Math Part 2

In this course, *knowledge* refers to the subject matter and content students will learn while completing the readings, practices, quizzes, and assignments.

On successful completion of this course, students will be able to do the following:

1. Simplify algebraic expressions and functions using the order of operations, distributive property, and combining like terms.
2. Understand the properties of exponents and know how to manipulate exponential terms.
3. Clearly explain the difference between a rational and irrational number and make calculations using them.
4. Calculate the volume of cylinders, cones, and spheres.
5. Use the Pythagorean Theorem to solve for unknown values in a real-world context.
6. Calculate and interpret data using scatterplots, lines of best fit, and two-way tables.



Skills

21st-Century Skill: *Communication—Engaging in Conversations and Discussions*

As students complete this course's assignments, they will gain skills in Engaging in Conversation and Discussions. This skill is part of Communication.



Attributes

Attribute: Resilience

This course focuses on developing the attribute of resilience in the context of 8th-grade Math.



Grading and Assignments

The letter grade in this course will be based on these assignments and exams.

Assignments and Exams

Assignment or Exam	Percent of Total Grade
Content Guides	10%
Assignments	25%
Module Quizzes	40%
Midcourse Quiz and Final Exam	25%

Content Guides

Every module will have a content guide to help students take notes on the key topics in the lessons. Students will submit them for a grade at the end of each module. Content guides are graded based on completion, so students will get full points if they have everything filled out.

Assignments

Each module consists of 3 topics. Most topics have one assignment where students will be asked to demonstrate their knowledge of the content learned from the lesson material. In some modules, there will be an application problems page instead of the third topic. Students will have unlimited attempts on topic assignments.

Module Quizzes

At the end of each module, students will take a quiz that covers all topics taught. They allow two attempts on each question.

Midcourse Quiz

This computer-graded quiz will cover the material up to the midcourse quiz. The questions on the midcourse quiz will be similar in format to the questions on the final exam.

Final Exam

The final exam is found in module 16 and is a comprehensive final that covers all material learned in the course from modules 1–15. The exam is closed book.

Course Grade

The letter grade will be calculated according to these percentages.

Grade Scale	
Percent to Letter Grade Calculation	
A	100%–93%
A–	<93%–90%
B+	<90%–87%
B	<87%–83%
B–	<83%–80%
C+	<80%–77%
C	<77%–73%
C–	<73%–70%
D+	<70%–67%
D	<67%–63%
D–	<63%–60%
F (fail)	<60%–0%