

# Acc Calculus Unit 7 Applications of Integration

Content Area: **Math**  
Course(s): **Accelerated Calculus**  
Time Period: **Marking Period 4**  
Length: **5 weeks**  
Status: **Published**

## Unit Overview

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In this unit, we will use a definite integral and the Fundamental Theorem of Calculus to solve geometry problems. We will find the area of a region enclosed by the graph of two functions and investigate several methods for finding the volume of a solid.

## Enduring Understandings

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- The definite integral of a function over an interval is a mathematical tool with many interpretations and applications involving accumulation.

## Essential Questions

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- How do you find the area of a region between two curves?
- How can you use integrals to find the volume of a solid?

## New Jersey Student Learning Standards (No CCS)

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N/A

## Interdisciplinary Connections

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LA.W.9-10.6	Use technology, including the Internet, to produce, share, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
SCI.HS-ETS1-2	Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
TECH.8.1.12.C.CS4	Contribute to project teams to produce original works or solve problems.

## Technology Standards

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TECH.8.1.12.C.CS4	Contribute to project teams to produce original works or solve problems.
TECH.8.1.12.D.CS3	Exhibit leadership for digital citizenship.
TECH.8.1.12.E.CS4	Process data and report results.
TECH.8.1.12.F.CS3	Collect and analyze data to identify solutions and/or make informed decisions.
TECH.8.1.12.F.CS4	Use multiple processes and diverse perspectives to explore alternative solutions.
TECH.8.2.12.C.CS2	The application of engineering design.

## 21st Century Themes/Careers

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CAEP.9.2.12.C.3	Identify transferable career skills and design alternate career plans.
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## Financial Literacy Integration

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PFL.9.1.12.C.1	Compare and contrast the financial benefits of different products and services offered by a variety of financial institutions.
PFL.9.1.12.C.2	Compare and compute interest and compound interest and develop an amortization table using business tools.
PFL.9.1.12.C.3	Compute and assess the accumulating effect of interest paid over time when using a variety of sources of credit.