

# MTH 201: Calculus

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## Daily Preparation, Module 12A: Applying the definite integral

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**Due by:** 11:59pm ET, **Sunday, November 29** (Back to the original schedule)

**Estimated time requirement:** About 45-60 minutes for the whole assignment. *If you have worked on this assignment for 30 minutes and you're not at least halfway done, DON'T work any further — instead, stop and ask for help* on the `#dailyprep` channel on CampusWire.

## Overview

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We've made it to the final module of the course! In Module 12, we'll continue to build on the concept of the Fundamental Theorem of Calculus. Module 12A is mainly a review and extension of the ideas from Module 11B — the Fundamental Theorem itself, and how to compute definite integrals with it (and apply the concepts to real problems).

## What you will learn

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**Learning Targets addressed in this module:**

- **INT.4 (CORE):** I can evaluate a definite integral using the Fundamental Theorem of Calculus.
- **INT.5:** I can correctly antidifferentiate basic functions and identify antiderivatives.

**BEFORE** your class meeting, use the Resources for Learning (below) to learn how to do the following:

- (Review) State the Fundamental Theorem of Calculus.
- (Review) Find the most general antiderivative of a function.
- (Review) Use the Fundamental Theorem of Calculus to find the exact value of a definite integral using an antiderivative.

**DURING AND AFTER** your class meeting, you will learn how to do the following:

- Identify when basic antidifferentiation does *not* allow you to compute an integral.
- Apply the Fundamental Theorem of Calculus to solve problems about distance traveled, displacement, and total change.

## Resources for Learning

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**Video:** No video to watch this time. Re-watch any ones from Module 11B where you feel you might need extra review.

**Text:** Re-read [Section 4.4 in the Active Calculus text](#).

You are free to search for and use other resources in addition to, or instead of the above, as long as you can work the exercises below.

## Exercises

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These are on Classkick. Go to [app.classkick.com](https://app.classkick.com) and log in, and it should be in your list. If you need a code:

- Section 02: GA8 DTM
- Section 04: 2K2 2QM

## Submission, grading, and getting help

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**Submitting your work:** Just work through the activities; your work is saved as you go.

**How this is graded:** Daily Prep assignments are graded on the basis of *completeness and effort*: If your submission has **all parts completed** (no blank entries, even if left blank accidentally) and **a good-faith effort to provide a correct solution or explanation is given** (no responses of “I don’t know” or “I didn’t understand”) and **the work is submitted on time**, it gets a “check”. Otherwise it gets an “x”. If you are stuck on an item, you’re expected to ask questions and give your best effort.

**Getting help on this assignment:** *You may work with others on this assignment, but you may not copy each others’ answers.* Evidence of copying will be treated as academic dishonesty. You may also ask questions on the #dailyprep channel on CampusWire, but you may not ask simply to be given the answers; giving and receiving answers on CampusWire will be treated as academic dishonesty.