Reading for Section 1.1 - Approximating Areas

Overview

Integrals - and the ideas behind integrals - have far reaching applications in many sciences. In this section we start by **approximating the area under a curve by using rectangles, and then use limits to make a formal definition of 'area under a curve'**. Later, we will use this to define integrals.

Note: The reading for sections 1.1, 1.2 and 1.3 can be done either before or after class, but before class is recommended if you can.

Reading guide:

✓ ✗ ?

VIEW **Learning Objectives**. ☐

READ **Sigma (Summation) Notation** including **Rule: Properties of Sigma Notation** and **Rule: Sums and Powers of Integers**. ☐

SKIP The proof of Properties of Sigma Notation.

READ **Examples 1.1, 1.2** and **1.3**. Try **Checkpoint 1.3**. ☐

VIEW **Approximating Area** and **Forming Riemann Sums**. Most students may find the amount of new notation in these topics difficult to follow. Focus on the introduction for now. We will summarize and go over the important parts in class. ☐

READ **Example 1.4** and **Checkpoint 1.4**. ☐

My questions

What's next?

1. Work through the reading guides for sections 1.2 and 1.3.
2. Work on WebWork problems.
3. Work on some of the exercises from the list of practice problems.

Legend:

READ Read carefully! Think about the details of Theorems, stop to work through examples etc.

VIEW You should have a look at this before class, but you are not expected to understand it fully.

SKIP Skip this (or choose to read it if you are interested). It will not be on any tests.