DEPARTMENT OF MATHEMATICS, UNIVERSITY OF UTAH
Calculus I
MATH 1210 – Section 023 – Spring 2025
Exam 1
Topics covered

Exam 1 is in-class on Friday, Jan 31, 2025

Exam 1 is 50 minutes, in-class.

All you need to bring is a pen or pencil to write with.

<u>None</u> of the following are allowed for exams: notes, textbook, calculators, reference sheet, laptop, phone.

Exam 1 covers the following sections in the textbook:
- Sections 1.1, and 1.3 - 1.6
- Sections 2.1 - 2.2
- Section 2.3, but only until the "Difference Rule" topic. (The "Product Rule" and onward is <u>not</u> covered.)

The material on exam 1 will be drawn from the following homework assignments:
- Homework 1
- Homework 2
- Homework 3

The concepts tested include the following:
- Limits
  - Graphical intuition of a limit
  - Intuitive meaning of a limit
  - Right- and left-handed limits
  - Computing limits (substitution, cancellation, special trigonometric limits)
  - Limits at infinity
  - Limits evaluating to $\pm\infty$
  - Determining horizontal and vertical asymptotes from limits
- Continuity
  - Definition of continuity at a point
  - Continuity on an interval
  - Right-continuity and left-continuity
- The derivative
  - Interpretations of the derivative: slope of the tangent line, and velocity
  - Definition of the derivative
  - Computing derivatives of functions
  - Power rule
  - Constant multiple, sum, and difference rules

"Will topic X be covered on the exam?"

A good rule of thumb for answering the above question is to answer the related question,

"Is topic X covered in one of the associated homework assignments?"

The answers to the above two questions are the same.