Calculus 1 IBDPE Midterm 2 Info

Time and Location

Friday, December 18, 09:00-10:00 at D.A.E. 5825 (for Odd student ID number) and D.A.E. 5824 (for Even student ID number).

Ground Rules

- Closed book. No notes. No calculator. The only allowed items on your desk are pen/pencil, erasers/whiteout, and ruler. No food is allowed. Coffee or beverage is allowed, although discouraged.
- Please use the bathroom before the exam. If you absolutely have to go to bathroom during the exam, you need to go to the designated ones that we have inspected before the exam. You also need to verify to me that your pockets are empty before you go.
- No hat nor sunglass may be worn unless required by medical condition.
- ABSOLUTELY no electronic device may be turned on during the exam. Any voice from cellular phone is considered cheating.
- Makeup exam is only possible when a student is absent due to university official duties.
- Regrade: please see the syllabus for regrade policy.

Tools

Only writing tools are allowed during this exam.

Format

There will be six equally weighted problems. You will choose four problems to answer and indicate which four problems to be graded. Problems not indicated for grading will be ignored.

Topics to Cover

This exam covers materials from November 4 to December 11 Specifically,

- Applications of Differentiations: Be able to fully classify extreme behavior of a function by completely classify critical points and local/global min/max. Be able to sketch a curve within reasonable difficulties. Be able to model a real world problem and find the optimal quantity. You do NOT need to study linear approximations (ie. differentials).
- Integrations: You need to FULLY understand the definition of integrations. Fundamental theorem of calculus is *extremely* important to know for this exam. You do NOT, however, need to know how to compute an integral using Riemann sum. Be able to apply ALL integration techniques/properties introduced in class and done in homework problems.
- Applications of Integrations: Be able to compute the area between curves, volumes by cross sections, or by revolutions with BOTH methods.
- Transcendental Functions: Know the definition of one-to-one functions and be able to find its inverse. Be able to compute basic differentiations and integrations involving ln x and e^x.

Study Suggestions

- Get enough sleep the night before the exam.
- Practice homework problems THOROUGHLY and be able to appreciate the insight of the problems so that you can do those problems in any forms and with moderate variations. Exam problems are modelled on homework problems.
- This exam emphasizes on conceptual understanding rather than mechanical computations. If you are stuck in long computations, it is recommended to rethink your process and see if you are forgetting some part of the concepts.