

Topics covered so far (Mid-term 1 review)

- Review of Chapter 5

- Definition of integral using Riemann Sums
 - Properties of the definite and indefinite integrals
 - Substitution
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-Chapter 6

- Velocity and net change
 - Area between two graphs
 - Calculating volumes:
 - Slices: disks, washers, general cross-sections
 - Shells
 - Arc length
 - Surface area of surfaces of revolution
 - Physical applications: density and mass, work (spring, ropes, pumping)
 - Exponential growth/decay
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-Chapter 7

- Basic approaches of integration
- Integration by parts
- Integrating powers of trig functions
- Trigonometric substitutions
- Method of partial fractions: -simple linear fractions
- Numerical integration: Midpoint rule, Trapezoid rule, Simpson's rule, Errors
- Improper integrals