

AP Calculus (BC)

Integration

The list below contains the *learning targets* for the unit on integration. Before the unit test, you should be able to place a check next to each statement as being true.

- I can evaluate integrals using substitution.
- I can evaluate definite integrals using a change of variables.
- I can evaluate integrals using integration by parts.
- I can integrate functions involving trigonometric functions.
- I can integrate rational functions using the following techniques:
 - substitution
 - inverse trigonometric functions
 - long division
 - partial fractions
- I can evaluate improper integrals.

Textbook Assignments

The exercises below are from *Calculus: Graphical, Numerical, Algebraic* by Finney, Demana, Waits, and Kennedy. These specific problems are the bare minimum that should be completed after each lesson, but you are encouraged to attempt more if needed.

- 6.2 Substitution **pg 321: 5, 9, 15, 17, 19, 21, 27, 29**
- 6.2 Change of Variables **pg 321: 13, 24, 25, 26, 31, 33, 38**
- 6.3 Integration by Parts **pg 328: 1, 3, 4, 6, 11, 15, 27, 29**
- 8.4 Partial Fractions **pg 452: 1-4, 25, 26**
- 8.3 Improper Integrals **pg 442: 1, 2, 5, 9, 11, 16, 21, 23**

Assignments are subject to change in class.