

Calculus 120, Chapter 6 Summary ~ things you should know

notes by Tim Pilachowski

Important concepts:

integration and antiderivative

integral as area under a curve

integral as a way to use a rate of change to find an amount

the Fundamental Theorem of Calculus

average value of a function

Be able to:

find the antiderivative of functions of the forms $\int x^r dx$, $\int e^{kx} dx$, $\int \frac{1}{x} dx$, and $\int c dx$

calculate a Riemann sum using the midpoints of a specified number of partitions

evaluate a definite integral of the form $\int_a^b f(x) dx$

find the area under a given curve and the area between two given curves

solve applications giving a rate of change to determine an amount

find the average value of a function on a given interval

apply a given formula to answer a question involving an integral

Review exercises from the text (13th edition):

Chapter 6 Review of Fundamental Concepts, 1 – 10, 11a, b & c

Chapter 6 Supplementary Exercises, 1 – 46, 49 – 53, 55, 67 – 74 (answers to odd-numbered problems are in the back)