

MAC 2312 EXAM I TOPICS (75 pts.) (9th Ed.)
Chap. 5

Point values are in parentheses.

- 5.2 ① antiderivatives (5)
- 5.3 ② substitution method (5)
- 5.4 ③ a) Using Thm. 6.4.2 (Don't memorize it.) (5)
b) expressing a sum in sigma notation (5)
c) finding left endpoint, right endpoint, or midpoint Riemann sums. (5)
- 5.5 ④ a) $\sum_{k=1}^n f(x_k^*) \Delta x_k$, $\max \Delta x_k$ (5)
b) evaluating a definite integral using area formula(s) from geometry (5)
c) expressing a definite integral as the limit of a sum or vice versa (5)
- 5.6 ⑤ a), b) definite integrals and areas using Fundamental Thm. of Calculus (10)
- 5.6, 5.8 ⑥ Mean Value Thm. for integrals and the average value of a function. (10)
- 5.6, 5.10 ⑦ Using Second Fundamental Thm. (5)
- 5.9 ⑧ Definite integral using substitution (5)
- ⑨ Proof (my choice): (5)
a) sum of first n integers
b) Mean Value Thm. for Integrals