

MAC 2312 EXAM III TOPICS (9th Ed.)
(80 pts.)

- 7.1 Background information needed for the following.
- 7.2 ① Integration by parts (10)
- 7.2, 7.3 ② Integrating powers of sine and cosine, including reduction formulas (10)
- 7.3 ③ Integrating powers of secant and tangent with (or possibly without) reduction formulas. (5)
- 7.4 ④ Trigonometric substitution (10)
- 7.4 ⑤ Integrals involving $ax^2 + bx + c$, using completing the square. (10)
- 7.5 ⑥ Rational functions and partial fractions (15)
- 7.7 ⑦ Using trapezoidal or Simpson's Rule (5)
- 7.8 ⑧ Improper integrals (10)
- ⑨ Proof of $\int \sec x \, dx$ or integration by parts. (5)

Note: Don't memorize the reduction formulas.