

Calculus

Date:

Items Needed: .Book,

Objective: The students will be able to solve trig integrals involving powers of sine, cosine, secant, and tangent.

Lesson:

- We are going to integrate functions of the form $\int \sin^m x \cos^n x dx$ or $\int \sec^m x \tan^n x dx$
- Remind students about the Pythagorean identity, and the half angle identities.
- Look at the straight forward types where the derivative of the one trig function is sitting right beside the other trig function.
- Look at the guidelines for evaluating integrals involving powers of sine and cosine.
- Do examples 1, 2, & 3.
- Point out the powers and when you should use one strategy versus the other.

- Look at the guidelines for evaluating integrals involving powers of secant and tangent.
- Do examples 4, 5, & 6.
- Point out the powers and when you should use one strategy versus the other.

Assignment: .Have students do 6, 7, 13, 29, p. 542.

Have students do 36, 37, 40, 44, 88 (Capstone), p. 542.

Evaluation: (Could be from any one/several of the following)

Responses from classroom questions
Results of classroom sample problems
Homework responses
Check answer with Calculator
End of the section exam

Enrichment: