

READING ASSIGNMENT 07
§8.1 (Integration by parts), §8.2 (Trig integrals)

NAME: _____
Due 11 July 2018

LEARNING OBJECTIVES

By the end of this lesson, you will be able to:

- Use integration by parts to evaluate integrals of products.
- Evaluate integrals of the form $\int \sin^n(x) \cos^m(x) dx$, and similar integrals involving other trigonometric functions.

REVIEW

- Review trigonometric identities. A good resource is here:

<http://www2.clarku.edu/~djoyce/trig/identities.html>

READING

- Read section 8.1
- Read section 8.2

QUESTIONS

(1) How do you evaluate an integral like $\int e^x \cos(x) dx$ where integrating by parts takes you in a circle?

(2) Which trigonometric identity is used to evaluate $\int \sin^2(\theta) d\theta$?

(3) Describe strategies to integrate $\int \sin^n(x) \cos^m(x) dx$ when:

(a) m and n are both even.

(b) m is even and n is odd.

(c) m and n are both odd.