

Lesson 9 - Indefinite Integrals and Net Change

Objectives

- Given initial conditions and a marginal cost function, find the total cost of production.
- Understand the net change theorem as it applies to area, concentration, mass, population, cost, and distance.
- Understand the difference between definite and indefinite integrals.
- Compute antiderivatives of polynomials, exponentials, rational and trigonometric functions.
- Understand the difference between total distance vs. total displacement when integrating a velocity function.

READ

- Stewart, Chapter 5.4, pages 391-396.

THINK ABOUT

- What must you remember to do when computing an indefinite integral?
- What is the connection between the antiderivative and integration?
- How do units help you to determine total change?

MATHEMATICA COMMANDS AND TASKS YOU NEED TO KNOW

Previous integration techniques.