

MA104 Lesson 8

Derivatives of Power, Exponential, and Log Functions

Friday, 25 January, 2008

Outline

Admin

Last Class

Derivatives of Power, Exponential, and Log Functions

Course Guide

Derivatives of Power, Exponential, and Log Functions

Definitions

An Example Problem

Look Forward - Product and Quotient Rule

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1. Quiz 3: You will have 15 minutes.

The Derivative as a Function

Questions?

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Objectives

1. Apply the Constant Multiple, Sum and Difference Rules to calculate derivatives of algebraic functions.
2. Calculate the derivative of a power function using the Power Rule.
3. Calculate the derivative of the natural exponential function.
4. Calculate the derivative of the natural log function.

READ

1. Stewart: Section 3.1, pages 173-180.
2. Stewart: Section 3.6, page 215 (Definition 2).
3. Student Notes.

THINK ABOUT

1. What is unique about the natural exponential function?

DO Problems

1. Section 3.1/ 3, 5, 7, 9, 11, 13, 15, 17, 19, 22, 32, 45

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1. Derivative of a constant - pg. 173

Definitions

1. Derivative of a constant - pg. 173
2. Power Rule - pg. 174

Definitions

1. Derivative of a constant - pg. 173
2. Power Rule - pg. 174
3. Constant Multiple Rule - pg. 176

Definitions

1. Derivative of a constant - pg. 173
2. Power Rule - pg. 174
3. Constant Multiple Rule - pg. 176
4. The Sum Rule - pg. 177

Definitions

1. Derivative of a constant - pg. 173
2. Power Rule - pg. 174
3. Constant Multiple Rule - pg. 176
4. The Sum Rule - pg. 177
5. The Difference Rule - pg. 177

Definitions

1. Derivative of a constant - pg. 173
2. Power Rule - pg. 174
3. Constant Multiple Rule - pg. 176
4. The Sum Rule - pg. 177
5. The Difference Rule - pg. 177
6. Derivative of the natural exponential function - pg. 180

Definitions

1. Derivative of a constant - pg. 173
2. Power Rule - pg. 174
3. Constant Multiple Rule - pg. 176
4. The Sum Rule - pg. 177
5. The Difference Rule - pg. 177
6. Derivative of the natural exponential function - pg. 180
7. Derivative of natural log - pg. 215

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An Example Problem

1. Find an example of each rule and put it on the board.
2. Challenge Problems: - Block I Problem 4 a and b.
3. Bring the hand worked answer for bonus points or some other reward.

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Lesson 9 - Product and Quotient Rule

1. OBJECTIVES:

- 1.1 Apply the Constant Multiple, Sum and Difference Rules to calculate derivatives of algebraic functions.
- 1.2 Calculate the derivative of a power function using the Power Rule.
- 1.3 Calculate the derivative of the natural exponential function.
- 1.4 Calculate the derivative of the natural log function.

2. READ:

- 2.1 Stewart: Section 3.1, pages 173-180.
- 2.2 Stewart: Section 3.6, page 215 (Definition 2).
- 2.3 Student Notes.

3. THINK ABOUT:

- 3.1 What is unique about the natural exponential function?

4. DO:

- 4.1 Section 3.1/ 3, 5, 7, 9, 11, 13, 15, 17, 19, 22, 32, 45

Questions?

Questions?