Calculus Videos

Calculus Videos Project

March 8, 2018

Contents

Part I
The Chain Rule
Video Set Introduction

SAGE

```
nameCheck = function(a,b) {
  return a.toLowerCase() != b.toLowerCase();
};
```

In the box below, please enter your name without spaces. After you have typed it, press enter or click the question mark to submit your name.

□.

Before watching the video, think about and answer these questions to the best of your ability. Your answer will always be recorded as correct, regardless of your answer choice.

For each of the following functions, compute its derivative.

Problem 1 $f(x) = e^{2x}$, $f'(x) =$ □

Problem 2 $f(x) = \cos(\pi - x)$, $f'(x) =$ □

Problem 3 $f(x) = (\ln(x))^2$, $f'(x) =$ □

Learning outcomes:
Author(s): Calculus Videos Project

Chain Rule Video

The Chain Rule

YouTube link: https://www.youtube.com/watch?v=HBq68-ptX78

Learning outcomes:
Author(s): Calculus Videos Project

Post Video Questions

SAGE

```
nameCheck = function(a,b) {
    return a.toLowerCase() != b.toLowerCase();
  };

isDerivative = function(a,b) {
    return a.equals( b.derivative('x') );
  };

```

Please answer each of these questions to the best of your ability. You are welcome to re-watch parts of any of the video to help you.

Problem 1 $f(x) = 4e^{3x}$, $f'(x) = \boxed{12\exp(3x)}$

Problem 2 $f(x) = \sin(x^2)$, $f'(x) = \boxed{\sin(x^2)}$

Problem 3 $f(x) = \sqrt{5+x^7}$, $f'(x) = \boxed{(5+x^7)^{1/2}}$

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Video Set 5 Reflection

Please respond to the following questions.

Google Form link: https://docs.google.com/forms/d/e/1FAIpQLSccG8kh3imDnTjg5g7F4r6fhHlJzGTxm_8DgYdQaPTJMh5rtg

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