
Calculus Videos

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Part I

Rate of change at a point

Rate of change at a point

Introduction

On the next pages, you will watch videos and use interactives, and will then answer some questions about the video.

On the bottom of each screen you will see next and back buttons. Continue until the pages say stop, after the google form.

Rate of change at a point

Video: Approximating Instantaneous Rates of Change

YouTube link: <https://www.youtube.com/watch?v=M2Cpa3FxfUU>

Rate of change at a point

Interactive: Approximating Instantaneous Rates of Change

The embedded image on this page is currently broken and being fixed. In the meantime, please go to <https://geogebra.org/m/afsEHCg4>.

Geogebra link: <https://geogebra.org/m/afsEHCg4>

Rate of change at a point

Video: Over- and Under-estimates

YouTube link: <https://www.youtube.com/watch?v=1w9MxqF6JJc>

Learning outcomes:

Derivatives

Questions

Google Form link: https://docs.google.com/forms/d/e/1FAIpQLSfZUo0j1KZELVxCw75TgQg_XcUsl81gvjseGsELIpsf98mGSw

Learning outcomes:

Derivatives

Stop

This is the end of the Rate of change at a point section.

Learning outcomes:

Part II

Curve Sketching

Curve Sketching

Introduction

On the next page, you will watch a video on graphing derivative functions and will then answer some questions about the video.

Learning outcomes:

Curve Sketching

Video

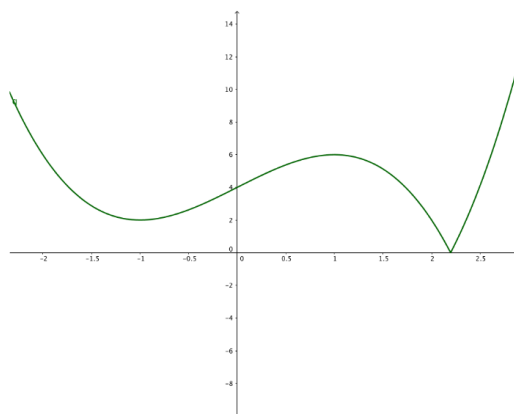
YouTube link: <https://www.youtube.com/watch?v=XbiKMDjFc8w>

Learning outcomes:

Curve Sketching

Question

Try it out! What will the derivative of this function look like?

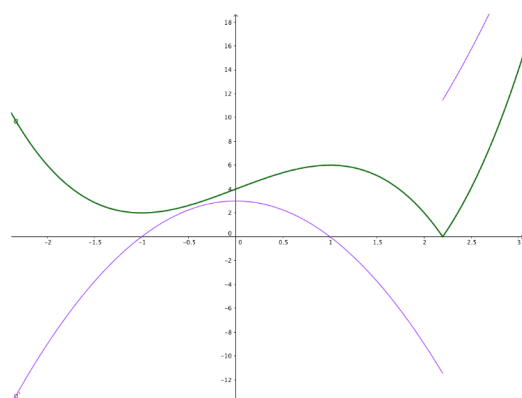


Learning outcomes:

Curve Sketching

Answer

Should be something similar to:



Learning outcomes:

Curve Sketching

Questions

Google Form link: <https://docs.google.com/forms/d/e/1FAIpQLSeJYFkuGEg8V7zBGTA-em0hijN-eX0b8U2->

Learning outcomes:

Curve Sketching

Stop

This is the end of the curve sketching section.

Learning outcomes:

Part III

The Power Rule

The Power Rule

Introduction

On the next pages, you will watch a video about the power rule and will then answer some questions about the video.

Learning outcomes:

The Power Rule

Video: The Power Rule

YouTube link: <https://www.youtube.com/watch?v=kTxhvyG0wG0>

Learning outcomes:

Using Basic Derivative Rules

Questions

Google Form link: <https://docs.google.com/forms/d/e/1FAIpQLScReDMv7yMqgBjb70KR79339J1qbxIkjw0hEF9NDCZQupGBQ>

Learning outcomes:

Using Basic Derivative Rules

Stop

This is the end of the power rule section.

Learning outcomes:

Part IV

More Derivative Rules

More Derivative Rules

Introduction

On the next pages, you will watch two videos about the chain rule and will then answer some questions about the video.

- The goals of these videos are to explain when you would need to use the chain rule and how to use the chain rule to find derivatives
- You use the chain rule when you have two composed functions - one function “inside” another, like $f(g(x))$
- To find the derivative, you do $f'(g(x)) * g'(x)$
- The reason for doing this is because the derivative of f doesn't just depend on x , but rather on the value of $g(x)$. So when $g(x)$ changes quickly, it affects how quickly $f(g(x))$ changes

The Chain Rule

Video: Introduction

YouTube link: <https://www.youtube.com/watch?v=GH1KQGhWSSA>

Learning outcomes:

The Chain Rule

Questions

Google Form link: https://docs.google.com/forms/d/e/1FAIpQLSdV_TKpsDHq1jRzJq-0Nm5gne6q4Xwh33UR
A

Learning outcomes:

The Chain Rule

Stop

This is the end of the chain rule section.

Learning outcomes: