
Calculus Videos

Matt Thomas

April 10, 2017

Contents

I	Rate of Change at a Point	4
	RoC at a point	4
	RoC at a point	5
	RoC at a point	6
	RoC at a point	7
	RoC at a point	8
	RoC at a point	9
II	Curve Sketching	10
	Curve Sketching	10
	Curve Sketching	11
	Curve Sketching	12
	Curve Sketching	13
	Curve Sketching	14
	Curve Sketching	15
III	The Power Rule	16
	The Power Rule	16
	The Power Rule	17
	The Power Rule	18
	The Power Rule	19
IV	More Derivative Rules	20
	More Derivative Rules	20
	More Derivative Rules	21
	More Derivative Rules	22
	More Derivative Rules	23

V	The Chain Rule	24
	The Chain Rule	24
	The Chain Rule	25
	The Chain Rule	26
	The Chain Rule	27
VI	Optimization	28
	Optimization	28
	Optimization	29
	Optimization	30
	Optimization	31
VII	Riemann Sums	32
	Riemann Sums	32
	Riemann Sums	33
	Riemann Sums	34
	Riemann Sums	35

Part I

Rate of Change at a Point

RoC 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.

RoC at a point

RoC at a point

Video: Approximating Instantaneous Rates of Change

YouTube link: https://www.youtube.com/watch?v=_CkJ5w1D148

Learning outcomes:

RoC 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/afsEHCg43200>

RoC at a point

RoC at a point

Video: Over- and Under-estimates

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

Learning outcomes:

RoC at a point

RoC at a point

Questions

Google Form link: <https://docs.google.com/forms/d/e/1FAIpQLSehKQZEFzEL5kE8ZucHW7DkKzNEcLU2EST1>

Learning outcomes:

RoC at a point

Stop

This is the end of the RoC at a point section.

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.

Curve Sketching

Video

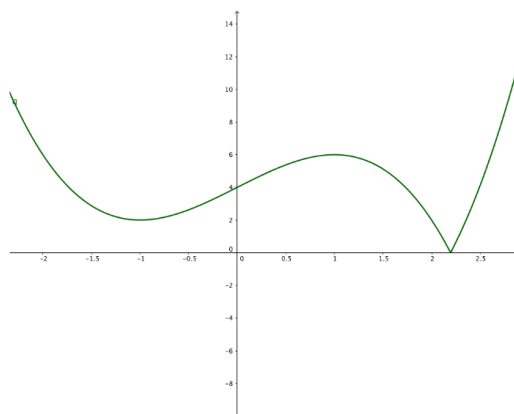
YouTube link: <https://www.youtube.com/watch?v=XbiKMDjFc8w>

Learning outcomes:

Curve Sketching

Question

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

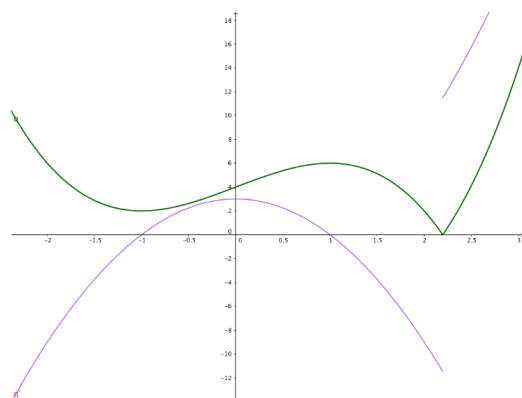


Learning outcomes:

Curve Sketching

Answer

Should be something similar to:



Learning outcomes:

Curve Sketching

Questions

Google Form link: https://docs.google.com/forms/d/e/1FAIpQLSeaeb47qTqqoW_Sy4dpXGfYIRVQLwtd17a9311Nf0HGJ_-GBA

Learning outcomes:

Curve Sketching

Stop

This is the end of the curve sketching section.

Part III

The Power Rule

The Power Rule

Introduction

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

Learning outcomes:

The Power Rule

Video

YouTube link: <https://www.youtube.com/watch?v=1ycGers95mo>

Learning outcomes:

The Power Rule

Questions

Google Form link: https://docs.google.com/forms/d/e/1FAIpQLSfbBER24GCMj05D31sSLbRquiBtJiC0JE_1K5_M9yyNPTQkA

Learning outcomes:

The Power Rule

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 a video about derivatives of exponential and logarithmic functions and will then answer some questions about the video.

More Derivative Rules

Video

YouTube link: <https://www.youtube.com/watch?v=i3kjirwbQ6o>

Learning outcomes:

More Derivative Rules

Questions

Google Form link: <https://docs.google.com/forms/d/e/1FAIpQLSfoS9damPZYshKkEZsY6oNOY9SbruKvIBvt>

Learning outcomes:

More Derivative Rules

Stop

This is the end of the more derivative rules section.

Part V

The Chain Rule

The Chain Rule

Introduction

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

The Chain Rule

Video

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

Learning outcomes:

The Chain Rule

Questions

Google Form link: <https://docs.google.com/forms/d/e/1FAIpQLSfMvnGU2tgkX6FFJf9sumsCeMjuGKykN3RZ>

Learning outcomes:

The Chain Rule

Stop

This is the end of the chain rule section.

Learning outcomes:

Part VI

Optimization

Optimization

Introduction

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

Optimization

Video

YouTube link: <https://www.youtube.com/watch?v=TzyU7GGy3P4>

Learning outcomes:

Optimization

Questions

Google Form link: <https://docs.google.com/forms/d/e/1FAIpQLSc8y7G351b6xmGqmhMHNZRI114mXH37jS4U>

Learning outcomes:

Optimization

Stop

This is the end of the optimization section.

Part VII

Riemann Sums

Riemann Sums

Introduction

On the next page, you will watch a video about Riemann sums and will then answer some questions about the video.

Riemann Sums

Video

YouTube link: <https://www.youtube.com/watch?v=dvLD6-VhzsE>

Learning outcomes:

Riemann Sums

Questions

Google Form link: <https://docs.google.com/forms/d/e/1FAIpQLSd9xcB0VRof-GbXmrrD70a7RLCaMZgxEH1v>

Learning outcomes:

Riemann Sums

Stop

This is the end of the Riemann sums section.