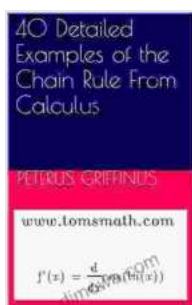# Unlock Calculus Mastery with 40 Detailed Examples of the Chain Rule

Are you ready to conquer the complexities of the chain rule in calculus and elevate your understanding to new heights? Look no further than '40 Detailed Examples of the Chain Rule from Calculus Calculus Master Class', the ultimate guide to mastering this fundamental concept.

40 Detailed Examples of the Chain Rule From Calculus (Calculus Master Class Book 3) by Lewis Morris

★★★★☆ 4.6 out of 5

Language	: English
File size	: 14594 KB
Text-to-Speech	: Enabled
Enhanced typesetting	: Enabled
Print length	: 28 pages
Lending	: Enabled
Screen Reader	: Supported

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What is the Chain Rule?

The chain rule is a powerful technique used in calculus to find the derivative of a composite function, which is a function that is composed of two or more other functions. It allows us to break down the derivative of a complex function into smaller, more manageable steps.

Why is the Chain Rule Important?

The chain rule is essential for solving a wide range of calculus problems, including:

- Finding the derivatives of logarithmic functions

- Calculating the derivatives of exponential functions

- Solving implicit differentiation problems

- Understanding related rates problems

40 Detailed Examples

'40 Detailed Examples of the Chain Rule from Calculus Calculus Master Class' provides a comprehensive collection of meticulously explained examples that cover a wide range of scenarios. Each example includes:

- A clear statement of the problem

- Step-by-step solution using the chain rule

- Clear explanations of each step

- A final answer with clear justification

Here are a few examples from the book:

Example 1

Find the derivative of $f(x) = (x^2 + 1)^5$

Solution:

- Let $u = x^2 + 1$

- Then f(x) = u^5

- Using the chain rule, we have:

```
f'(x) = 5u^4 * u'
```

- Substituting u = x^2 + 1, we get:

```
f'(x) = 5(x^2 + 1)^4 * 2x
```

- Simplifying, we get:

```
f'(x) = 10x(x^2 + 1)^4
```

Example 2

Find the derivative of g(x) = sin(2x + 1)

Solution:

- Let u = 2x + 1

- Then g(x) = sin(u)

- Using the chain rule, we have:

```
g'(x) = cos(u) * u'
```

- Substituting u = 2x + 1, we get:

```
g'(x) = cos(2x + 1) * 2
```

- Simplifying, we get:

```
g'(x) = 2cos(2x + 1)
```

Benefits of '40 Detailed Examples of the Chain Rule'

By studying the examples in this book, you will:

- Develop a deep understanding of the chain rule

- Gain confidence in applying the chain rule to various problems

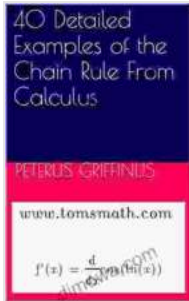- Improve your overall calculus skills

- Ace your calculus exam

'40 Detailed Examples of the Chain Rule from Calculus Calculus Master Class' is an indispensable resource for calculus students at all levels. Whether you are struggling with the chain rule or simply want to enhance your understanding, this book will provide you with the tools and knowledge you need to succeed.

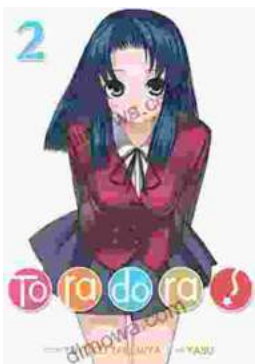Free Download your copy today and embark on your journey to calculus mastery!

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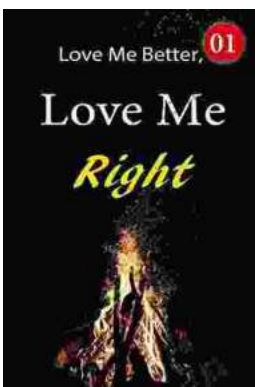⭐⭐⭐⭐☆ 4.6 out of 5

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