

Why Beamer?

A beginning example

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Outline

- 1 **Beginnings and Nomenclature**
 - The History
 - European Language
- 2 **The Beamer Document Class**
 - An Ordinary TeX Document
 - Inclusion of different file types
 - Overlays
 - Transitions
- 3 **Presenting the Mathematics**

The Origins of Beamer

Beamer was created by Till Tantau for his Ph. D. thesis presentation in 2003.

The nomenclature

Beamer is the generic European word for overhead projector.

- Est-ce qu'il y a un Beamer?
- Hebt u een Beamer?
- Egy Beamer nekked van?

Why We Love \LaTeX

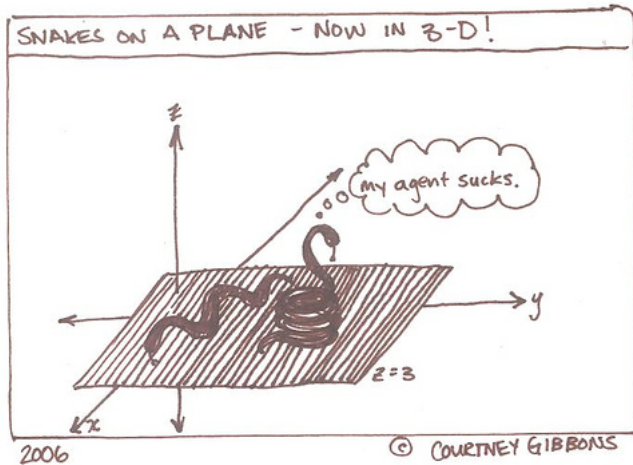
Beamer handles mathematical expressions exactly as \LaTeX does.

- ① Which of the following vector fields \mathbf{F} are conservative? For those that are, find a function $f(x, y)$ such that $\mathbf{F} = \nabla f$.
- ① $\mathbf{F} = \langle 2xy, x^2 + y^2 \rangle$
 - ② $\mathbf{F} = \langle 2 \cos x, 2y \cos x \rangle$
 - ③ $\mathbf{F} = \langle 2 \cos x + e^x, 2e^y \rangle$
 - ④ $\mathbf{F} = \langle 2 \cos y + e^y, 2e^x \rangle$

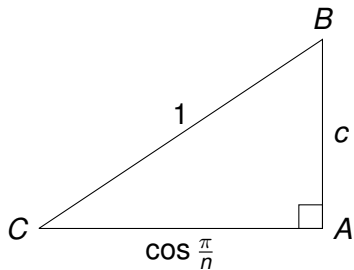
Including .jpg files



Including .pdf files



Including TikZ pictures



The Pointwise Reveal

- Why was 6 afraid of 7?
- Because 7 knocked over a liquor store in LA.
- Also, 7 was a cannibal.

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The Single Point Highlight

How we can combine vectors:

- Vector Addition: $\mathbf{a} + \mathbf{b}$
- Scalar Multiplication: $\lambda \cdot \mathbf{a}$
- Dot Product: $\mathbf{a} \odot \mathbf{b}$
- Cross Product: $\mathbf{a} \times \mathbf{b}$

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The Curtain Rises

You can include fancy transitions a la *Powerpoint*
Whether Horizontal



The Curtain Also Rises

or Vertical



The Curtain Dissipates

or Sparkly



A Theorem on Prime Numbers

Theorem

There exist infinitely many primes.

Proof.

Assume that there are only finitely many primes, $p_1 \dots p_k$. Consider $n = \prod_{i=1}^k p_i + 1$. Since $\gcd(n, p_i) = 1$ for all i , it follows that n is divisible by a prime other than those from the finite set. □

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Columns and Boxes

The Calculi

Limits

Derivatives

Graphing

Optimization

Area

Volumes

Integrals

Series and Sequences

For more...



Til Tantau

The Beamer *class*

Manual for version 3.36

Available on the Math 235 Website



The Beamer Class in ShareLaTeX

Available from the Math 235 Website

Or at

<https://www.sharelatex.com/learn/Beamer>