UiO : Department of Mathematics
University of Oslo

# Beamer example

## Usage of the theme MathDept

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# Mathematics

## Theorem (Fermat's little theorem)

*For a prime $p$ and $a \in \mathbb{Z}$ it holds that $a^p \equiv a \pmod{p}$.*

## Proof.

The invertible elements in a field form a group under multiplication. In particular, the elements

$$1, 2, \ldots, p-1 \in \mathbb{Z}_p$$

form a group under multiplication modulo $p$. This is a group of order $p-1$. For $a \in \mathbb{Z}_p$ and $a \neq 0$ we thus get $a^{p-1} = 1 \in \mathbb{Z}_p$. The claim follows. ∎

# Mathematics

## Example

The function $\varphi\colon \mathbb{R} \to \mathbb{R}$ given by $\varphi(x) = 2x$ is continuous at the point $x = \alpha$, because if $\epsilon > 0$ and $x \in \mathbb{R}$ is such that $|x - \alpha| < \delta = \frac{\epsilon}{2}$, then

$$|\varphi(x) - \varphi(\alpha)| = 2|x - \alpha| < 2\delta = \epsilon.$$

# Highlighting

Some times it is useful to highlight certain words in the text.

**Important message**

If a lot of text should be highlighted, it is a good idea to put it in a box.

It is easy to match the colour theme.

# Lists

- Bullet lists are marked with a grey box.

1. Numbered lists are marked with a white number inside a grey box.

**Description** highlights important words with grey text.

**Example**

- Lists change colour after the environment.

# References I


R. Hartshorne.
*Algebraic Geometry*.
Springer-Verlag, 1977.


M. Artin.
On isolated rational singularities of surfaces.
*Amer. J. Math.*, 80(1):129–136, 1966.


R. Vakil.
*The moduli space of curves and Gromov–Witten theory*, 2006.
http://arxiv.org/abs/math/0602347

# References II

- M. Atiyah og I. Macdonald.
  *Introduction to commutative algebra*.
  Addison-Wesley Publishing Co., Reading, Mass.-London-Don Mills, Ont., 1969

[5] J. Fraleigh.
  *A first course in abstract algebra*.
  Addison-Wesley Publishing Co., Reading, Mass.-London-Don Mills, Ont., 1967

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