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Mathematical fonts

In mathematical mode you can change the typefaces of the fonts when needed. For instance, it's customary to represent real numbers with a blackboard bold font, or topological spaces with calligraphic font. This article shows several fonts in math mode.

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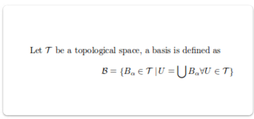
Introduction

For some elements is convenient to have the possibility of changing the font typeface.

```
Let \( \mathcal{T} \) be a topological space, a basis is defined as
 \[
 \mathcal{B} = \{B_{\alpha} \in \mathcal{T}\, |\,  U = \bigcup B_{\alpha} \forall U \in
\mathcal{T} \}
 \]
```



Several fonts require to add the line `\usepackage{amssymb}` to the preamble to work.

Open an example in ShareLaTeX

Capital letters-only font typefaces

There are some font typefaces that support a limited number of characters, these fonts usually denote some special sets.

```
\begin{align*}
RQSZ \\
\mathcal{RQSZ} \\
\mathfrak{RQSZ} \\
\mathbb{RQSZ}
\end{align*}
```

This example shows Calligraphic, Fraktur and Blackboard bold typefaces. For instance, to display the R in blackboard bold typeface `\mathbb{R}` will do the trick.

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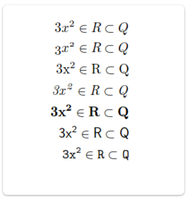
Other mathematical fonts

It's possible to set a different font family for a complete mathematical expression.

```
\begin{align*}
3x^2 \in R \subset Q \\
\mathnormal{3x^2 \in R \subset Q} \\
\mathrm{3x^2 \in R \subset Q} \\
\mathit{3x^2 \in R \subset Q} \\
\mathbf{3x^2 \in R \subset Q} \\
\mathsf{3x^2 \in R \subset Q} \\
\mathtt{3x^2 \in R \subset Q}
\end{align*}
```



In this cases not only letters but all characters change its appearance, for example `\mathit{3x^2}` displays the equation italicised.

Open an example in ShareLaTeX

Further reading

For more information see

- Mathematical expressions
- Subscripts and superscripts
- Bold, italics and underlining
- Font sizes, families, and styles
- Font typefaces
- Text alignment
- The not so short introduction to LaTeX 2ε