Display style in math mode

Some mathematical elements change their style depending on the context, whether they are part of the text or in a equation-type environment. This article explains how to manually adjust the display style.

Introduction

Let's see an example

```
Depending on the value of $x$ the equation \( f(x) = \sum_{i=0}^{n} \frac{a_i}{1+x} \)
may diverge or converge.

\[ f(x) = \sum_{i=0}^{n} \frac{a_i}{1+x} \]
```

Depending on the value of x the equation $f(x) = \sum_{i=0}^{n} \frac{a_i}{1+x}$ may diverge or converge.

$$f(x) = \sum_{i=0}^{n} \frac{a_i}{1+x}$$

Superscripts, subscripts and fractions are formatted differently.

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Setting mathematical styles

The maths styles can be set explicitly. For instance, if you want an in-line mathematical element to display as a equation-like element put `\displaystyle` before that element. There are some more maths style-related commands that change the size of the text.

```
In-line maths elements can be set with a different style: \(f(x) = \displaystyle
\frac{1}{1+x}\). The same is true the other way around:

\begin{eqnarray*}
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f(x) = \sum_{i=0}^{n} \frac{a_i}{1+x} \\
\textstyle f(x) = \textstyle \sum_{i=0}^{n} \frac{a_i}{1+x} \\
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\end{eqnarray*}
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```

In-line maths elements can be set with a different style: $f(x) = \displaystyle\frac{1}{1+x}$. The same is true the other way around:

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Further reading

For more information see

- Mathematical expressions
- Subscripts and superscripts
- Aligning equations with amsmath
- Spacing in math mode
- Integrals, sums and limits
- Mathematical fonts
- The not so short introduction to LaTeX 2ε