

# Using `\pdfmarkupcomment` in math mode

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## 1 Simple formulas

PDF annotations work in inline formula ( $\sum_{i=1}^n i = \frac{1}{2}n \cdot (n + 1)$ ), as well as in display mode:

$$f(x) = \prod_{i=1}^n \left( i - \frac{1}{2i} \right)$$

Of course, you can only comment parts of a formula:

$$(a + b = c)^{d+e}$$

```
1 \[(a+b=c)^{\pdfmarkupcomment[style=mathpopup]
2 {d+e}{comment}}\]
```

As you can see the size of the PDF annotation is too big! The math content is set into a box to measure the size. Unfortunately, the math context gets lost, which results in a wrong size, as the math snippets are set as inline formula into the box by default. You can correct this with the option `mathstyle` (`\textstyle`, `\displaystyle`, `\scriptstyle`, `\scriptscriptstyle`)

$$(a + b = c)^{d+e}$$

```
1 \[(a+b=c)^{\pdfmarkupcomment[style=mathpopup,
2 mathstyle=\scriptstyle]{d+e}{comment}}\]
```

Of course, it also works with equations:

$$(1) \quad \sum_{i=1}^n i = \frac{1}{2}n \cdot (n + 1)$$

```
1 \begin{equation}
2 \pdfmarkupcomment[style=mathpopup,
3 mathstyle=\displaystyle]
4 {\sum_{i=1}^n i = \frac{1}{2}n
5 \cdot (n+1)}{comment}
6 \end{equation} \label{eq:display}
```

In formula 1 `mathstyle=\displaystyle` was used.

## 2 Complex formulas

If you use more complex environments like `eqnarray*`, you can no longer comment the complete formula, as this would break the internals of the environment. Remember that you can only comment, what you can put into a math box (`$math stuff$`). Therefore, you can only comment parts of the complex formula:

$$\frac{1}{\sqrt{n}} = \frac{\sqrt{n}}{n} = \frac{n}{n\sqrt{n}}$$

```
1 \begin{eqnarray*}
2 \pdfmarkupcomment[style=mathpopup]
3 {\mathrm{left}}{\comment} &
4 \pdfmarkupcomment[style=mathpopup]
5 {\mathrm{middle}}{\comment} &
6 \pdfmarkupcomment[style=mathpopup]
7 {\mathrm{right}}{\comment} \\
8 \pdfmarkupcomment[style=mathpopup,
9 mathstyle=\displaystyle]
10 {\frac{1}{\sqrt{n}}}{\comment} = &
11 \pdfmarkupcomment[style=mathpopup,
12 mathstyle=\displaystyle]
13 {\frac{\sqrt{n}}{n}}{\comment} = &
14 \pdfmarkupcomment[style=mathpopup,
15 mathstyle=\displaystyle]
16 {\frac{n}{n\sqrt{n}}}{\comment}
17 \end{eqnarray*}
```