

L^AT_EX Fancy Custom Command Examples

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Here is a sampling of commands I've created in the context of classroom material. Some of them may be directly useful to you; others may help you imagine what's possible and create your own. To see the actual definitions, look at the source code for this file.

- `\circle`

```


$$\frac{31x^5 + 4x^2 - 10x + 5}{x^5 - 2x^3 + 10,000}$$


```

produces

$$\frac{31x^5 + 4x^2 - 10x + 5}{x^5 - 2x^3 + 10,000}$$

- `\map`

```
f: \map{A}{B}{x}{x^2}
```

$$f: A \longrightarrow B$$

$$x \longmapsto x^2$$

- `\define`

The number `m` is called the `\define{slope}`, and `$y=mx+b$` is called a `\define[equation!linear]{linear equation}`.

The number m is called the **slope**, and $y = mx + b$ is called a **linear equation**.

As used, this makes two index entries: one equivalent to `\index{slope}` and one equivalent to `\index{equation!linear}`.

- `\squigdownarrow`

This makes a squiggly, downwards arrow like so

$$\lim_{n \rightarrow \infty} \sum_{i=0}^n x^2 \Delta x$$

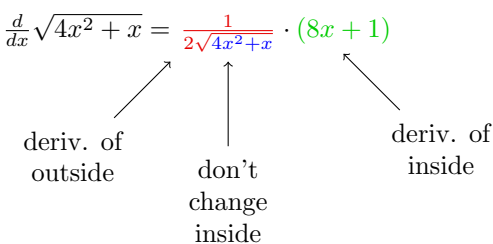
$$\begin{array}{c} \downarrow \quad \downarrow \\ \int x^2 dx \end{array}$$

- `\chain`

```


$$\frac{d}{dx} \sqrt{4x^2 + x} = \frac{1}{2\sqrt{4x^2 + x}} \cdot (8x + 1)$$


```



For more examples, try the following:

```

\chain[(1ex,0ex)]
  {\ddx \sin(x^2+1)}
  {\cos(\inside{x^2+1})}
  {2x}
\chain[(0.5ex,0.5ex)]
  {\ddx e^{-x^2}}
  {e^{\inside{-x^2}}}
  {(-2x)}

```

- `\TIbutton{ \div }`
`\TIbutton{MATH}`

makes \div and **MATH**.

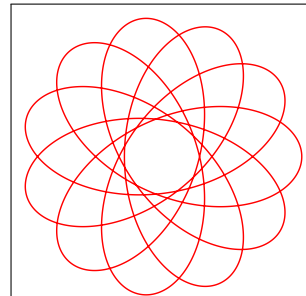
These are meant to look like a button and a menu on a TI calculator.

- `\rvect{a,b,c,d,e,f,g}`
`\cvect{a,b,c,d,e,f,g}`

$$[a \ b \ c \ d \ e \ f \ g]$$

$$\begin{array}{|c} a \\ b \\ c \\ d \\ e \\ f \\ g \end{array}$$

- `\begin{fpanel}{\includegraphics [width=1.5in]{hypocycloid}}`
This is the graph of a hypocycloid. It was made in Maple, then I exported it as EPS, and then I included it here.
`\end{fpanel}`



This is the graph of a hypocycloid. It was made in Maple, then I exported it as EPS, and then I included it here.

This is for making comic-book like panels, with text at the bottom. It has an argument for a picture (or some kind of box). The picture sets the width of the panel, and then the body of the environment contains the text, that will wrap below the panel.