

## A third example with MathJax activacted

This StrapDown-flavored HTML page comes with MathJax enabled, simply because **we asked the script to do so**.

The last line of this page source (you can read it with « Ctrl+u » in Firefox) imports the script `strapdown.min.js` with this URL : « `strapdown.min.js?src=example5mathjax=ytheme=unitedbeacon=y` ».

This way, some options are avaible :

1. `mathjax=y` if you want to load MathJax, with  
*being the default separator for inline maths and for display, theme=united or theme=united if you want to load a specific theme*
  2. `beacon=y` if you want to include an invisible GA Beacon image in your page.
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These examples are the same as the previous example directly imported from the samples from the [mathjax.org](http://mathjax.org) website.

The following equations are included in the HTML source code as pure LaTeX code.

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### The Lorenz Equations

The previous equation corresponds to the following code, inserted verbatim in the Markdown part of this page (ie. after the opening `xmp` tag and before its closing) : `latex`

$$\dot{x} = \sigma(y - x)$$

$$\{ \dot{y} = \rho x - y - xz$$

$$\dot{z} = -\beta z + xy$$

### The Cauchy-Schwarz Inequality (in $\mathbb{R}^n$ )

$$\left( \sum_{k=1}^n a_k b_k \right)^2 \leq \left( \sum_{k=1}^n a_k^2 \right) \left( \sum_{k=1}^n b_k^2 \right)$$

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### A Cross Product Formula

$$\mathbf{V}_1 \times \mathbf{V}_2 = \begin{vmatrix} \mathbf{i} & \mathbf{j} & \mathbf{k} \\ \frac{\partial X}{\partial u} & \frac{\partial Y}{\partial u} & 0 \\ \frac{\partial X}{\partial v} & \frac{\partial Y}{\partial v} & 0 \end{vmatrix}$$

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$$\mathbf{V\_1} \times \mathbf{V\_2} = \begin{vmatrix} \mathbf{i} & \mathbf{j} & \mathbf{k} \\ \frac{\partial X}{\partial u} & \frac{\partial Y}{\partial u} & 0 \\ \frac{\partial X}{\partial v} & \frac{\partial Y}{\partial v} & 0 \end{vmatrix}$$

**The probability of getting  $k$  heads when flipping  $n$  coins is**

$$P(E) = \binom{n}{k} p^k (1-p)^{n-k}$$

The previous equation corresponds to the following code, inserted verbatim in the Markdown part of this page : `latex`

$$P(E) = \binom{n}{k} p^k (1-p)^{n-k}$$

**An Identity of Ramanujan (obviously)**

$$\frac{1}{(\sqrt{\phi\sqrt{5}} - \phi)e^{\frac{2}{5}\pi}} = 1 + \frac{e^{-2\pi}}{1 + \frac{e^{-4\pi}}{1 + \frac{e^{-6\pi}}{1 + \frac{e^{-8\pi}}{1 + \dots}}}}$$

The previous equation corresponds to the following code, inserted verbatim in the Markdown part of this page : `latex`

$$\frac{1}{(\sqrt{\phi\sqrt{5}} - \phi)e^{\frac{2}{5}\pi}} = 1 + \frac{e^{-2\pi}}{1 + \frac{e^{-4\pi}}{1 + \frac{e^{-6\pi}}{1 + \frac{e^{-8\pi}}{1 + \dots}}}}$$

**A Rogers-Ramanujan Identity**

$$1 + \frac{q^2}{(1-q)} + \frac{q^6}{(1-q)(1-q^2)} + \dots = \prod_{j=0}^{\infty} \frac{1}{(1-q^{5j+2})(1-q^{5j+3})}, \quad \text{for } |q| < 1.$$

The previous equation corresponds to the following code, inserted verbatim in the Markdown part of this page : `latex`

$$1 + \frac{q^2}{(1-q)} + \frac{q^6}{(1-q)(1-q^2)} + \dots = \prod_{j=0}^{\infty} \frac{1}{(1-q^{5j+2})(1-q^{5j+3})}, \quad \text{for } |q| lt; 1.$$

## Maxwell's Equations

The previous equation corresponds to the following code, inserted verbatim in the Markdown part of this page : `latex`

$$\nabla \times \vec{\mathbf{B}} - \frac{1}{c} \frac{\partial \vec{\mathbf{E}}}{\partial t} = \frac{4\pi}{c} \vec{\mathbf{j}}$$

$$\nabla \cdot \vec{\mathbf{E}} = 4\pi\rho$$

{

$$\nabla \times \vec{\mathbf{E}} + \frac{1}{c} \frac{\partial \vec{\mathbf{B}}}{\partial t} = \vec{0}$$

$$\nabla \cdot \vec{\mathbf{B}} = 0$$

As you can see, math environment (like `aligned`) are supported by MathJax, even with the default configuration and no external plugins.

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## Inline equations are also supported.

Finally, while **display equations** look good for a page of samples, the ability to mix math and text in a paragraph is also important. This expression  $\sqrt{3x-1} + (1+x)^2$  is an example of an **inline equation** (inserted with the code  `$\sqrt{3x-1} + (1+x)^2$` ). As you see, MathJax equations can be used this way as well, without unduly disturbing the spacing between lines.

## End of the examples

That's all for today !

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(Compiled to **PDF** from a **HTML/Markdown** file (powered by `StrapDown.js`) with `strapdown2pdf`, v0.9.)