LaTeX Test

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Abstract

The abstract abstract. This is a Test.

Contents

1 Some Interesting Words

Well, and here begins my lovely article.

2 Good Bye World

... and here it ends. ... when Einstein introduced his formula

$$e = m \cdot c^2 \,, \tag{1}$$

which is at the same time the most widely known and the least well understood physical formula.

... from which follows Kirchhoff's current law:

$$\sum_{k=1}^{n} I_k = 0 \,. \tag{2}$$

Kirchhoff's voltage law can be derived ..... which has several advantages.

$$I_D = I_F - I_R \tag{3}$$

is the core of a very different transistor model. ... "Please press the 'x' key."

$$J_a(b) = a + b/32.b \tag{4}$$

Test[1]

This is text style: $\lim_{n\to\infty} \sum_{k=1}^{n} \frac{1}{k^2} = \frac{\pi^2}{6}$. And this is display style:

$$\lim_{n\to\infty} \sum_{k=1}^{n} \frac{1}{k^2} = \frac{\pi^2}{6} \tag{5}$$

This is a test for all:

$$\forall x \in \mathbf{R}: \qquad x^2 \geq 0 \tag{6}$$

[1] Very Long Test text sdfsdaf s dfsf fds fsd f s fds f sd f sd fdsfsdafsdaf sda fsda f sd fasd fsdf adsf adfs

Math 115AH Notation:

$$\phi_\beta(x) = [x]_\beta \tag{7}$$

Other tests:

$$\sqrt{x} \Leftrightarrow x^{1/2} \quad \sqrt[3]{2} \quad \sqrt{x^2+\sqrt{y}} \quad \surd[x^2+y^2] \tag{8}$$

Derivatives: $\sqrt{\frac{x^2}{k+1}}$ $x^{\frac{2}{k+1}}$ $\frac{\partial^2 f}{\partial x^2}$

Isomorphisms $\mathrm{f}_n(x) \overset{*}{\approx} 1$

Big Operators (These should be on a new line)

$$\sum_{i=1}^{n} \quad \int_0^{\frac{\pi}{2}} \quad \prod_{\epsilon} \tag{9}$$

Subset stuff

$$\sum_{0<i<nj\subseteq i}^{n} P(i,j) = Q(i,j) \tag{10}$$

Matrix stuff $\mathrm{X} = \begin{pmatrix} x_1 & x_2 & \cdots \\ x_3 & x_4 & \cdots \\ \vdots & \vdots & \ddots \end{pmatrix}$

Piecewise Functions

$$|x| = \begin{cases} -x & if x < 0, \\ 0 & if x = 0, \\ x & if x > 0. \end{cases} \tag{11}$$

Working with new commands:

$$\int_a^b f(x)\,\mathrm{d}x \tag{12}$$

Different Integral Spacing:

c $\int\int f(x)g(y)\,\mathrm{d}x\,\mathrm{d}y$

$\iint f(x)g(y)\,\mathrm{d}x\,\mathrm{d}y$

$f(x)g(y)\,\mathrm{d}x\,\mathrm{d}y$

Alignment stuff: ${}^{14}_{6}C$ *versus* ${}^{14}_{6}C$

Table of Real Numbers[2]: $\Re$ $\mathcal{R}$ R R

Complex Equations:

$$P = \frac{\sum_{i=1}^{n}(x_i - x)(y_i - y)}{\left[\sum_{i=1}^{n}(x_i - x)^2 \sum_{i=1}^{n}(y_i - y)^2\right]^{1/2}} \tag{13}$$

Theorems:

[some text] This is my interesting theorem

Murphy 2.1 *If there are two or more ways to do something, and one of those ways can result in a catastrophe, then someone will do it.*

Proof: Trivial, use E=mc^2.

This is a proof that ends with a numbered equation:

$$a = b + c. \tag{14}$$

[2]The last two require amssymb or amsfonts

Math 115AH test: Let T:V$\rightarrow V, x \mapsto 2x, Then$:

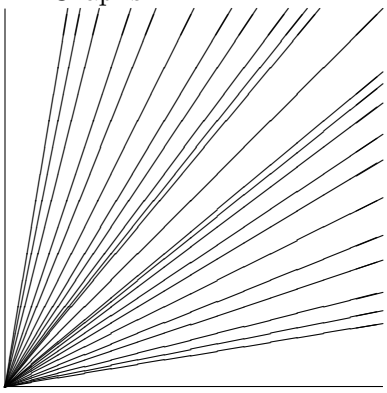
$$\sum_{i=1}^{n} \lambda_i \dot{T}(x_i) \in V \tag{15}$$

Partl [1] has proposed that ...

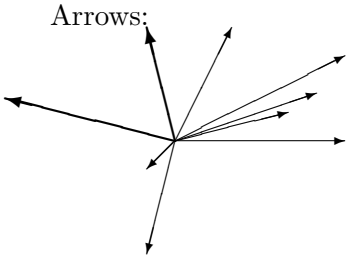
References

[1] H. Partl: *German TEX*, TUGboat Volume 9, Issue 1 (1988)

Graphs:

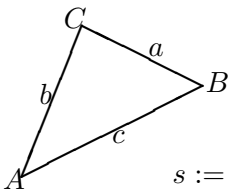


Arrows:



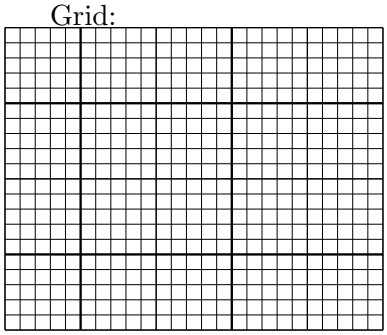
Misc figures:

$$F = \sqrt{s(s-a)(s-b)(s-c)}$$



$$s := \frac{a+b+c}{2}$$

Grid:



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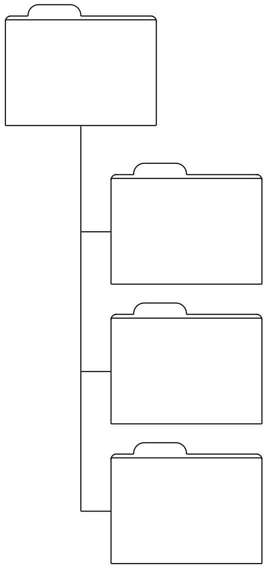

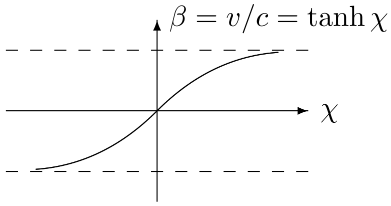

Special Relativity: ●

More Text stuff: The small and **bold** Romans ruled all of great big *Italy*.

c e n t r a l

s p r e a d

Guess I'm framed now!

Bummer, I am too wide

never mind so am I Can you read this?

Aaaaaaargh she shouted, but not even the next one in line noticed that something terrible had happened to her.