

# Sample math symbols

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# Contents

|   |                  |   |
|---|------------------|---|
| 1 | Single equations | 2 |
|---|------------------|---|

# Chapter 1

## Single equations

Add  $a$  squared and  $b$  squared to get  $c$  squared. Or, using the more mathematical approach:  $a^2 + b^2 = c^2$

$\mathrm{T_E X}$  is pronounced as  $\tau\epsilon\chi$

100 m<sup>3</sup> of water

This comes from my *heartsuit*

Add  $a$  squared and  $b$  squared to get  $c$  squared. Or, using the more mathematical approach:

$$a^2 + b^2 = c^2 \tag{1.1}$$

Einstein says

$$E = mc^2 \tag{1.2}$$

He didn't say

$$1 + 1 = 3 \tag{bollocks}$$

This is a reference to (1.2).

Add  $a$  squared to  $b$  squared to get  $c$  squared. Or, using a more mathematical approach

$$a^2 + b^2 = c^2$$

or you can type less for the same effect

$$a^2 + b^2 = c^2$$

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

$$\lim_{n \rightarrow \infty} \sum_{k=1}^n \frac{1}{k^2} = \frac{\pi^2}{6} \tag{1.3}$$

A  $d_{ep}$  mathematical expression followed by a  $h_{ig_h}$  expression. As opposed to a smashed  $d_{ep}$  expression followed by a  $h_{ig_h}$  expression.

$$\begin{aligned} \forall x \in \mathbf{R} : \quad & x^2 \geq 0 \\ x^2 \geq 0 \quad & \text{for all } x \in \mathbf{R} \end{aligned}$$

$$\begin{array}{l}
x^2 \geq 0 \qquad \text{for all } x \in \mathbb{R} \\
\boxed{p_{ij}^3 \qquad m_{\text{Knuth}} \qquad \sum_{k=1}^n k} \\
\boxed{a^x + y \neq a^{x+y} \qquad e^{x^2} \neq e^{x2}} \\
\sqrt{2} \Leftrightarrow x^{1/2} \quad \sqrt[3]{2} \quad \sqrt{x^2 + \sqrt{y}} \quad \sqrt{x^2 + y^2} \\
\Psi = v_1 \cdot v_2 \cdot \ldots \qquad n! = 1 \cdot 2 \cdots (n-1) \cdot n \\
0.\overline{3} = 1/3 \\
\boxed{\overbrace{a+b+c}^6 \cdot \overbrace{d+e+f}^9 = 54} \\
\text{Advanced Calculus} \\
f(x) = x^2 \quad f'(x) = 2x \quad f''(x) = 2 \\
\begin{array}{ccccc}
\hat{X}Y & \widehat{XY} & \bar{x}_0 & \overline{x_0} & \vec{x_0} \\
\vec{a} & \vec{AB} & \vec{AB} & \vec{AB} & \vec{AB}
\end{array}
\end{array}$$

$$lim_{x \rightarrow 0} \frac{\sin x}{x} = 1$$

$$\text{JamesComey} = \text{nutjob}_{x=D.Trump}$$

$$a \bmod b$$

$$x \equiv a \pmod{b}$$

In in-line equations, the fraction  $\frac{1}{2}$ (text style) is shrunk to fit the line.  
The reverse of which is  $\frac{1}{2}$ (display style). A built-in fraction is  $\frac{1}{2}$