$2 \in \mathbb{N} = \{a \in \mathbb{Z} \mid a \text{ is positive}\} \subseteq \mathbb{Z} \not\ni \pi$

```
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\{a\in\mathbb{Z}\mid a\text{ is positive}\}
\subseteq \mathbb{Z}\not\ni\pi$
```

$1 \ge 0 \le 3 < 2^{1+1} = \int_1^4 1\,dx = \sum_{i=1}^4 1$

```
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```

$a_1, \ldots, a_n$

```
$a_1,\ldots,a_n$
```

$n! = 1 \cdot 2 \cdots n$

```
$n!=1\cdot 2\cdots n$
```

$$\begin{aligned}
(a+b)^2 &= (a+b)(a+b) \\
&= a^2 + ab + ba + b^2 \\
&= a^2 + ab + ba + b^2 \quad (\text{since } ab = ba) \\
&= a^2 + 2ab + b^2.
\end{aligned}$$

```
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          &=a^{2}+ab+ba+b^{2} \\
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             && \text{(since $ab=ba$) } \\
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\end{aligned} \]
```

$x \mapsto \overline{x+1} : \mathbb{C} \to \mathbb{C}$

```
$x\mapsto \overline{x+1}:\mathbb{C}\to \mathbb{C}$
```

$\frac{\alpha}{g} \neq \alpha \circ g$

```
$\frac{\alpha}{g}\not=\alpha\circ g$
```

$$\begin{bmatrix}
1 & 2 \\
3 & 4
\end{bmatrix}$$

```
$ \left[ \begin{matrix}
1 & 2 \\
3 & 4 \\
\end{matrix} \right] $
```

$\left[\begin{smallmatrix}
\alpha & \beta \\
\gamma & \delta
\end{smallmatrix}\right]$

```
$\left[ \begin{smallmatrix}
\alpha & \beta \\
\gamma & \delta \\
\end{smallmatrix} \right]$
```

$\operatorname{dom}(f) = [0,2) \cap [2,3] \cup \mathbb{Z}$

```
\newcommand{\dom}{\mathop\mathrm{dom}\nolimits}
$\dom(f)=[0,2)\cap[2,3]\cup\mathbb{Z}$
```

$\sin(x) = x + \frac{x^3}{6} + \cdots$

```
$\sin(x)=x+\frac{x^3}{6}+\cdots$
```

---

one	1	$\bullet$
two two	22	$\Rightarrow\Leftrightarrow$
three three three	333	$\infty\sum\prod$

```
\begin{tabular}{|l|c|r|}
\hline
one & 1 & $\bullet$\\
\hline
two two & 22 & $\Rightarrow\Leftrightarrow$\\
three three three & 333 & $\infty\sum\prod$\\
\hline
\end{tabular}
```

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emphasis **bold** $\mathcal{ABC}$ <u>underline</u> $\vec{a}$ $\mathbf{v}$

```
\emph{emphasis} \textbf{bold} $\mathcal{ABC}$
\underline{underline} $\vec{a}$ $\mathbf{v}$
```