

# First LaTeX document

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## 1 Some Math expressions

1. Type a fraction  $\frac{1}{x+1}$ .

2. Center an equation

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

3. A sequence of equations lined up

$$\begin{aligned}(a - b)(a + b) &= aa - ba + ab - bb \\ &= aa - ab + ab - bb \\ &= a^2 - b^2\end{aligned}$$

4.  $\mathbb{N} = \{1, 2, 3, \dots\}$

## 2 Sets

**Definition 2.1.**  $x \in A \cap B$  if  $x \in A$  and  $x \in B$ .

**Theorem 2.2.**  $\overline{A \cap B} = \overline{A} \cup \overline{B}$  for all sets  $A, B$ .

*Proof.* Let  $x \in \overline{A \cap B}$ . Then ...

□