1 Basic Mathematics

This session covers typesetting mathematics in LaTeX. This text contains two mathematical expressions: $2^2 + 2^2 = 8$ and $2 \times 2 = 4$

$$\cos^2\theta + \sin^2\theta = 1$$

The union of two sets A and B is denoted as $A \cup B = \{x \in A \text{ or } x \in B\}$
We are learning fractions: $\frac{a}{\frac{b}{c}} \times \frac{\frac{d}{e}}{f} \geq 1$

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$$\left\{ \left(\frac{a}{b} \right) + \left(\frac{c}{d} \right) \right\}$$

Now, we are learning how to do summation:
$\sum_{i=a}^{b} g(i) = 0, for\ b < a$

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$$\sum_{i=1}^{n} i = \frac{n(n+1)}{2}$$