

Let  $a, b \in \mathbb{Q}$ . Then:

$$\begin{aligned} a \cdot 0 &= 0 & (1) \\ a + (b + c) &= c + (a + b) & (2) \\ c \cdot 1 &= c & (3) \end{aligned}$$

$$e^{i\pi} + 1 = 0$$

Let  $A, B, C$  be sets.

Then:

$$\begin{aligned} |A \cup B \cup C| &= |A \cup (B \cup C)| = |A| + |(B \cup C)| - |A \cap (B \cup C)| = \\ &= |A| + |(B \cup C)| - |(A \cap B) \cup (A \cap C)| = \\ &= |A| + |B| + |C| - |B \cap C| - \left( |A \cap B| + |A \cap C| - |(A \cap B) \cap (A \cap C)| \right) = \\ &= |A| + |B| + |C| - |B \cap C| - |A \cap B| - |A \cap C| + |A \cap B \cap C|. \end{aligned}$$

$$\mathbb{Q} = \left\{ \frac{a}{b} : a \in \mathbb{Z}, b \in \mathbb{N} \setminus \{0\} \right\}.$$

(Notice the spacing.)

Let  $\{a_n\}_{n=1}^\infty$  be a sequence. Then

$$\lim_{n \rightarrow \infty} a_n = L \iff \forall \epsilon > 0 \exists N \in \mathbb{N} \forall n > N : |a_n - L| < \epsilon.$$

Let  $a_n := \frac{n^2+n+1}{n^2-1}$  and let  $b_n := (a_n)^{5700+82}$ . Then

$$b_n \rightarrow_{n \rightarrow +\infty} 1.$$

(Bonus, using `\underset`): Let  $a_n := \frac{n^2+n+1}{n^2-1}$  and let  $b_n := (a_n)^{5700+82}$ . Then

$$b_n \xrightarrow[n \rightarrow +\infty]{} 1.$$