MA2101: Analysis Lecture Notes

Sabarno Saha   Debayan Sarkar

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1 Algebra of the Real Number System

The properties of addition in the real number system are:

(A1) $x + y = y + x \ \forall \ x, y \in \mathbb{R}$

(A2) $(x + y) + z = x + (y + z) \ \forall \ x, y, z \in \mathbb{R}$

(A3) $\exists! 0 \in \mathbb{R} \ s.t. \ x + 0 = 0 + x = x \ \forall \ x \in \mathbb{R}$