proposition: The real number 1 is a positive number.

proof

By Axiom II #2, 1 is positive, 0, or -1 is positive, and we know 1 ≠ 0. By way of contradiction, suppose -1 is positive. Then, for all \( x \in \mathbb{R}^+ \), \((-1) \cdot x \in \mathbb{R}^+\) by Axiom II #1. By P1.2.3, \((-1) \cdot x = -x\), so \(-x \in \mathbb{R}^+\). However, since \( x \) is positive, by E 1.3.1 #1 \(-x\) is negative, which is a contradiction. Thus, -1 is not positive, and so by Axiom II #2, 1 is positive. ■