[12pt]article amsmath, amssymb, xcolor [margin=1in]geometry

# Vector Space Proof Demonstration

*Generated by the Khwarizmi Symbolic System*

**Goal:** Prove that $(1 + -1) \cdot u = 0$

Start: $(1 + -1)$

(1) $(1 + -1) = 0$ $[Scalar\_Arith]$

(1a) $(1 + -1) \cdot u = 0 \cdot u$ $[Scalar\_Arith]$

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(2) $0 \cdot u = 0$ $[VS\_Zero\_Mul]$

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Final Result: $0$

**Q.E.D.**