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

Vector Space Proof Demonstration

Generated by the Khwarizmi Symbolic System

Goal: Prove that $(2 \cdot (u + 0) + -1 \cdot u) = u$

Start: $(u + 0)$

(1)	$(u + 0) = u$	$[VS\_Add\_Id]$
(1a)	$2 \cdot (u + 0) = 2 \cdot u$	$[VS\_Add\_Id]$
(1b)	$(2 \cdot (u + 0) + -1 \cdot u) = (2 \cdot u + -1 \cdot u)$	$[VS\_Add\_Id]$
(2)	$(2 \cdot u + -1 \cdot u) = (2 + -1) \cdot u$	$[VS\_Factor\_Scalar]$
(3)	$(2 + -1) = 1$	$[Scalar\_Arith]$
(3a)	$(2 + -1) \cdot u = 1 \cdot u$	$[Scalar\_Arith]$
(4)	$1 \cdot u = u$	$[VS\_Scalar\_Id]$

Final Result: u

Q.E.D.