

t34_quatern3
(TMczgpbp8uM8pA699Niq7kqBJmvDteB4KcpU)

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Let $v1_quaterni : \iota \Rightarrow o$ be given. Let $k3_quatern2 : \iota \Rightarrow \iota$ be given. Let $k27_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k32_quaterni : \iota \Rightarrow \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k10_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_quaterni X0) \Rightarrow (\forall X1.(v1_quaterni X1) \Rightarrow (k32_quaterni (k27_quaterni X0 X1) = k3_xcmplx_0 (k32_quaterni X0) (k32_quaterni X1))) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 X1)) \Rightarrow (k8_real_1 X0 X1 = k3_xcmplx_0 X0 X1) \quad (2)$$

Assume the following.

$$\forall X0.(v1_quaterni X0) \Rightarrow (k3_quatern2 X0 = k32_quaterni X0) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v1_quaterni X0) \wedge (v1_quaterni X1)) \Rightarrow (k27_quaterni X0 X1 = k10_quaterni X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_quaterni X0) \wedge (v1_quaterni X1)) \Rightarrow (v1_quaterni (k10_quaterni X0 X1)) \quad (5)$$

Assume the following.

$$\forall X0.(v1_quaterni X0) \Rightarrow (m1_subset_1 (k3_quatern2 X0) k1_numbers) \quad (6)$$

Assume the following.

$$\forall X0.(v1_quaterni X0) \Rightarrow (v1_xreal_0 (k32_quaterni X0)) \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_quaterni\ X0) \Rightarrow (\forall X1.(v1_quaterni\ X1) \Rightarrow (\forall X2. \\ & (v1_quaterni\ X2) \Rightarrow (k3_quatern2\ (k27_quaterni\ (k27_quaterni\ X0 \\ & X1)\ X2) = k8_real_1\ (k8_real_1\ (k3_quatern2\ X0)\ (k3_quatern2\ X1)) \\ & (k3_quatern2\ X2)))) \end{aligned}$$