t51_quatern2 (TMSzp-Bvj8tSTBE2nMn22qb2rcMDRBwgK1SC)

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Let $v1\_quaterni : \iota \Rightarrow o$ be given. Let $k3\_quatern2 : \iota \Rightarrow \iota$ be given. Let $k18\_quatern2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k32\_quaterni : \iota \Rightarrow \iota$ be given. Let $k27\_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k31\_quaterni : \iota \Rightarrow \iota$ 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 $k30\_quaterni : \iota \Rightarrow \iota$ be given. Let $k1\_quaterni : \iota$ be given. Assume the following.

$$\forall X0.(v1\_quaterni\ X0) \Rightarrow (\forall X1.(v1\_quaterni\ X1) \Rightarrow (k32\_quaterni\ (k27\_quaterni\ X0\ X1) = k3\_xcmplx\_0\ (k32\_quaterni\ X0)\ (k32\_quaterni\ X1))) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_quaterni\ X0) \Rightarrow (k32\_quaterni\ (k31\_quaterni\ X0) = k32\_quaterni\ X0) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k1\_numbers) \wedge (v1\_xreal\_0\ X1)) \Rightarrow (k8\_real\_1\ X0\ X1 = k3\_xcmplx\_0\ X0\ X1) \tag{3}$$

Assume the following.

$$\forall X0.(v1\_quaterni\ X0) \Rightarrow (k3\_quatern2\ X0 = k32\_quaterni\ X0) \tag{4}$$

Assume the following.

$$\forall X0.(v1\_quaterni\ X0) \Rightarrow (k31\_quaterni\ X0 = k30\_quaterni\ X0) \tag{5}$$

Assume the following.

$$\forall X0.(v1\_quaterni\ X0) \Rightarrow (m1\_subset\_1\ (k3\_quatern2\ X0)\ k1\_numbers) \tag{6}$$

Assume the following.

$$\forall X0.(v1\_quaterni\ X0) \Rightarrow (v1\_xreal\_0\ (k32\_quaterni\ X0)) \tag{7}$$

Assume the following.

$$\forall X0.(v1\_quaterni\ X0) \Rightarrow (v1\_quaterni\ (k30\_quaterni\ X0)) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_quaterni\ X0) \wedge (v1\_quaterni\ X1)) \Rightarrow (m1\_subset\_1\ (k18\_quatern2\ X0\ X1)\ k1\_quaterni) \tag{9}$$

Assume the following.

$$\forall X0.(v1\_quaterni\ X0) \Rightarrow (\forall X1.(v1\_quaterni\ X1) \Rightarrow (k18\_quatern2\ X0\ X1 = k27\_quaterni\ X0\ (k31\_quaterni\ X1))) \tag{10}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_quaterni) \Rightarrow (v1\_quaterni\ X0) \tag{11}$$

Theorem 1

$$\forall X0.(v1\_quaterni\ X0) \Rightarrow (\forall X1.(v1\_quaterni\ X1) \Rightarrow (k3\_quatern2\ (k18\_quatern2\ X0\ X1) = k8\_real\_1\ (k3\_quatern2\ X0)\ (k3\_quatern2\ X1)))$$