

l69_quaterni (TMQCqDEL- prrj4RdyZiWWkCsjzJXGPL4dUDw)

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Let $v1_quaterni : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k17_quaterni : \iota \Rightarrow \iota$ be given. Let $k18_quaterni : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k19_quaterni : \iota \Rightarrow \iota$ be given. Let $k20_quaterni : \iota \Rightarrow \iota$ be given. Let $k6_quaterni : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k5_arytm_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k1_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_numbers) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 k1_numbers) \Rightarrow ((k17_quaterni (k6_quaterni X0 X1 \\ & X2 X3) = X0) \wedge ((k18_quaterni (k6_quaterni X0 X1 X2 X3) = X1) \wedge ((k19_quaterni \\ & (k6_quaterni X0 X1 X2 X3) = X2) \wedge (k20_quaterni (k6_quaterni X0 X1 \\ & X2 X3) = X3))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k1_numbers) \Rightarrow (k6_quaterni X0 X1 k6_numbers k6_numbers = k5_arytm_0 \\ & X0 X1)) \end{aligned} \tag{3}$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ & X2 X0 X1) \Rightarrow (m1_subset_1 X2 X0)) \end{aligned} \tag{5}$$

Assume the following.

$$m2_subset_1 \ k6_numbers \ k1_numbers \ k5_numbers \quad (6)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 \ X0 \ k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 \ k1_numbers) \Rightarrow ((X1 = k6_numbers) \Rightarrow (k5_arytm_0 \ X0 \ X1 = X0)) \wedge ((\\ X1 \neq k6_numbers) \Rightarrow (k5_arytm_0 \ X0 \ X1 = k5_funct_4 \ k1_numbers \ k6_numbers \\ np_1 \ X0 \ X1))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(v1_xboole_0 \ X0) \Rightarrow (\forall X1.(m1_subset_1 \ X1 \ (k1_zfmisc_1 \\ X0)) \Rightarrow (v1_xboole_0 \ X1)) \quad (9)$$

Theorem 1

$$\begin{aligned} \forall X0.(v1_quaterni \ X0) \Rightarrow (\forall X1.(m1_subset_1 \ X1 \ k1_numbers) \Rightarrow \\ ((X0 = X1) \Rightarrow ((k17_quaterni \ X0 = X1) \wedge ((k18_quaterni \ X0 = k6_numbers) \wedge \\ ((k19_quaterni \ X0 = k6_numbers) \wedge (k20_quaterni \ X0 = k6_numbers)))))) \end{aligned}$$