

t32_quaterni (TMaE- hABM9r31pUWebHSpDmkuF6xuKAw7HEe)

October 27, 2020

Let $v1_quaterni : \iota \Rightarrow o$ be given. Let $k17_quaterni : \iota \Rightarrow \iota$ be given. Let $k7_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_quaterni : \iota \Rightarrow \iota$ be given. Let $k19_quaterni : \iota \Rightarrow \iota$ be given. Let $k20_quaterni : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(v1_quaterni X0) \Rightarrow (\forall X1.(v1_quaterni X1) \Rightarrow (\forall X2. \\
 & \quad (v1_quaterni X2) \Rightarrow (\forall X3.(v1_quaterni X3) \Rightarrow (\forall X4.(\\
 & \quad v1_quaterni X4) \Rightarrow ((X4 = k7_quaterni (k7_quaterni (k7_quaterni \\
 & X0 X1) X2) X3) \Rightarrow ((k17_quaterni X4 = k7_real_1 (k7_real_1 (k7_real_1 \\
 & (k17_quaterni X0) (k17_quaterni X1)) (k17_quaterni X2)) (k17_quaterni \\
 & X3)) \wedge ((k18_quaterni X4 = k7_real_1 (k7_real_1 (k7_real_1 (k18_quaterni \\
 & X0) (k18_quaterni X1)) (k18_quaterni X2)) (k18_quaterni X3)) \wedge \\
 & ((k19_quaterni X4 = k7_real_1 (k7_real_1 (k7_real_1 (k19_quaterni \\
 & X0) (k19_quaterni X1)) (k19_quaterni X2)) (k19_quaterni X3)) \wedge \\
 & (k20_quaterni X4 = k7_real_1 (k7_real_1 (k7_real_1 (k20_quaterni \\
 & X0) (k20_quaterni X1)) (k20_quaterni X2)) (k20_quaterni X3))))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v1_quaterni X0) \wedge (v1_quaterni X1)) \Rightarrow (v1_quaterni (k7_quaterni X0 X1)) \tag{2}$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_quaterni\ X0) \Rightarrow (\forall X1.(v1_quaterni\ X1) \Rightarrow (\forall X2. \\ & (v1_quaterni\ X2) \Rightarrow (\forall X3.(v1_quaterni\ X3) \Rightarrow ((k17_quaterni \\ & (k7_quaterni\ (k7_quaterni\ (k7_quaterni\ X0\ X1)\ X2)\ X3) = k7_real_1 \\ & (k7_real_1\ (k7_real_1\ (k17_quaterni\ X0)\ (k17_quaterni\ X1))\ (k17_quaterni \\ & X2))\ (k17_quaterni\ X3)) \wedge ((k18_quaterni\ (k7_quaterni\ (k7_quaterni \\ & (k7_quaterni\ X0\ X1)\ X2)\ X3) = k7_real_1\ (k7_real_1\ (k7_real_1\ (k18_quaterni \\ & X0)\ (k18_quaterni\ X1))\ (k18_quaterni\ X2))\ (k18_quaterni\ X3)) \wedge \\ & ((k19_quaterni\ (k7_quaterni\ (k7_quaterni\ (k7_quaterni\ X0\ X1) \\ & X2)\ X3) = k7_real_1\ (k7_real_1\ (k7_real_1\ (k19_quaterni\ X0)\ (k19_quaterni \\ & X1))\ (k19_quaterni\ X2))\ (k19_quaterni\ X3)) \wedge (k20_quaterni\ (k7_quaterni \\ & (k7_quaterni\ (k7_quaterni\ X0\ X1)\ X2)\ X3) = k7_real_1\ (k7_real_1 \\ & (k7_real_1\ (k20_quaterni\ X0)\ (k20_quaterni\ X1))\ (k20_quaterni \\ & X2))\ (k20_quaterni\ X3)))))))) \end{aligned}$$