

# t1\_quaterni

(TMYtUudDhgVa5Yxu44rxASPVac2asz8ufLN)

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Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_quaterni : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_enumset1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (k9\_xtuple\_0 (k4\_funct\_4 \\ & X0 X1 X2 X3) = k2\_tarski X0 X1) \wedge (r1\_tarski (k10\_xtuple\_0 (k4\_funct\_4 \\ & X0 X1 X2 X3)) (k2\_tarski X2 X3)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. k2\_enumset1 X0 X1 \\ & X2 X3 = k2\_xboole\_0 (k2\_tarski X0 X1) (k2\_tarski X2 X3) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & \forall X6. \forall X7. (v1\_relat\_1 (k2\_quaterni X0 X1 X2 X3 X4 X5 \\ & X6 X7)) \wedge (v1\_funct\_1 (k2\_quaterni X0 X1 X2 X3 X4 X5 X6 X7)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (v1\_relat\_1 (k4\_funct\_4 \\ & X0 X1 X2 X3)) \wedge (v1\_funct\_1 (k4\_funct\_4 X0 X1 X2 X3)) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & \forall X6. \forall X7. k2\_quaterni X0 X1 X2 X3 X4 X5 X6 X7 = k1\_funct\_4 \\ & (k4\_funct\_4 X0 X1 X4 X5) (k4\_funct\_4 X2 X3 X6 X7) \end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\
& \quad v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2.((v1\_relat\_1 X2) \wedge \\
(v1\_funct\_1 X2)) \Rightarrow ((X2 = k1\_funct\_4 X0 X1) \Leftrightarrow ((k9\_xtuple\_0 X2 = k2\_xboole\_0 \\
& \quad (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1)) \wedge (\forall X3.(X3 \in k2\_xboole\_0 \\
& \quad (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1)) \Rightarrow (((X3 \in k9\_xtuple\_0 X1) \Rightarrow (k1\_funct\_1 \\
& \quad X2 X3 = k1\_funct\_1 X1 X3)) \wedge ((\neg X3 \in k9\_xtuple\_0 X1) \Rightarrow (k1\_funct\_1 X2 \\
& \quad X3 = k1\_funct\_1 X0 X3)))))))))
\end{aligned} \tag{6}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\
& \forall X6. \forall X7. k9\_xtuple\_0 (k2\_quaterni X0 X1 X2 X3 X4 X5 \\
& \quad X6 X7) = k2\_enumset1 X0 X1 X2 X3
\end{aligned}$$