

# t24\_qc\_lang3 (TMGEoArXmmafY- cKSmC9oF3ws9twDXkffL9d)

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Let  $m1\_qc\_lang1 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $k3\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_qc\_lang1 : \iota \Rightarrow \iota$  be given. Let  $v6\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k15\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k24\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. r1\_tarski\ k1\_xboole\_0\ X0 \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. (m1\_qc\_lang1\ X0) \Rightarrow (\forall X1. (m2\_subset\_1\ X1\ (k2\_qc\_lang1 \\ X0)\ (k3\_qc\_lang1\ X0)) \Rightarrow (\forall X2. (m1\_subset\_1\ X2\ (k9\_qc\_lang1 \\ X0)) \Rightarrow ((v6\_qc\_lang1\ (k15\_qc\_lang1\ X0\ X1\ X2)\ X0) \Leftrightarrow (r1\_tarski\ (k24\_qc\_lang1 \\ X0\ X2)\ (k1\_tarski\ X1)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. (m1\_qc\_lang1\ X0) \Rightarrow (\forall X1. (m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)) \Rightarrow ((v6\_qc\_lang1\ X1\ X0) \Leftrightarrow (k24\_qc\_lang1\ X0\ X1 = k1\_xboole\_0))) \tag{3}$$

## Theorem 1

$$\begin{aligned} \forall X0. (m1\_qc\_lang1\ X0) \Rightarrow (\forall X1. (m2\_subset\_1\ X1\ (k2\_qc\_lang1 \\ X0)\ (k3\_qc\_lang1\ X0)) \Rightarrow (\forall X2. (m1\_subset\_1\ X2\ (k9\_qc\_lang1 \\ X0)) \Rightarrow ((v6\_qc\_lang1\ X2\ X0) \Rightarrow (v6\_qc\_lang1\ (k15\_qc\_lang1\ X0\ X1\ X2) \\ X0)))) \end{aligned}$$