

t40\_turing\_1 (TMMDzQki-  
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Let  $l1\_turing\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u2\_turing\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u4\_turing\_1 : \iota \Rightarrow \iota$  be given. Let  $k21\_turing\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k6\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u5\_turing\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X1 X0)) \Rightarrow (k6\_domain\_1 X0 X1 = k1\_tarski X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge ((m1\_subset\_1 X2 X0) \wedge (m1\_subset\_1 X3 X1)))) \Rightarrow (k1\_domain\_1 X0 X1 X2 X3 = k4\_tarski X2 X3) \quad (4)$$

Assume the following.

$$\forall X0. \neg v1\_xboole\_0 (k1\_tarski X0) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge (\neg v1\_xboole\_0 X1)) \Rightarrow (\neg v1\_xboole\_0 (k2\_zfmisc\_1 X0 X1)) \quad (6)$$

Assume the following.

$$\forall X0.(l1\_turing\_1 X0) \Rightarrow (m1\_subset\_1 (u4\_turing\_1 X0) (u2\_turing\_1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l1\_turing\_1 X0) \Rightarrow ((\neg v1\_xboole\_0 (u2\_turing\_1 X0)) \wedge (v1\_finset\_1 (u2\_turing\_1 X0))) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0) \wedge \\ & ((\neg v1\_xboole\_0 X1) \wedge ((m1\_subset\_1 X2 X0) \wedge (m1\_subset\_1 X3 X1)))) \Rightarrow \\ & (m1\_subset\_1 (k1\_domain\_1 X0 X1 X2 X3) (k2\_zfmisc\_1 X0 X1)) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l1\_turing\_1 X0) \Rightarrow (\forall X1.(l1\_turing\_1 X1) \Rightarrow (k21\_turing\_1 \\ & X0 X1 = k2\_xboole\_0 (k2\_zfmisc\_1 (u2\_turing\_1 X0) (k6\_domain\_1 \\ & (u2\_turing\_1 X1) (u4\_turing\_1 X1))) (k2\_zfmisc\_1 (k6\_domain\_1 \\ & (u2\_turing\_1 X0) (u5\_turing\_1 X0)) (u2\_turing\_1 X1)))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_tarski X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (12)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(l1\_turing\_1 X0) \Rightarrow (\forall X1.(l1\_turing\_1 X1) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u2\_turing\_1 X0)) \Rightarrow (k1\_domain\_1 (u2\_turing\_1 \\ & X0) (u2\_turing\_1 X1) X2 (u4\_turing\_1 X1) \in k21\_turing\_1 X0 X1))) \end{aligned}$$