

t25\_turing\_1  
(TMGrxjTrCRvYNFtR54iE7TJjYDHE97u2Z4f)

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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  $k3\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u2\_turing\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_numbers : \iota$  be given. Let  $k9\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_turing\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_xtuple\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u5\_turing\_1 : \iota \Rightarrow \iota$  be given. Let  $k9\_turing\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_mcart\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k1\_real\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k8\_turing\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_turing\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_turing\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_turing\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_mcart\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_mcart\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k4\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $m1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1\_xboole\_0 X0) \wedge \\ & ((\neg v1\_xboole\_0 X1) \wedge ((\neg v1\_xboole\_0 X2) \wedge (m1\_subset\_1 X3 (k3\_zfmisc\_1 \\ & X0 X1 X2)))) \Rightarrow (k1\_mcart\_1 X0 X1 X2 X3 = k4\_xtuple\_0 X3) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k4\_xtuple\_0 (k3\_xtuple\_0 X0 X1 X2) = X0 \quad (2)$$

Assume the following.

$$\neg v1\_xboole\_0 k4\_numbers \quad (3)$$

Assume the following.

$$\forall X0. (l1\_turing\_1 X0) \Rightarrow ((\neg v1\_xboole\_0 (u2\_turing\_1 X0)) \wedge (v1\_finset\_1 (u2\_turing\_1 X0))) \quad (4)$$

Assume the following.

$$\forall X0. (l1\_turing\_1 X0) \Rightarrow ((\neg v1\_xboole\_0 (u1\_turing\_1 X0)) \wedge (v1\_finset\_1 (u1\_turing\_1 X0))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_funct\_2 X2 X0 X1)\Rightarrow(\neg v1\_xboole\_0 X2) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1\_xboole\_0 X1)\Rightarrow(m1\_funct\_2 (k9\_funct\_2 X0 X1) X0 X1) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_turing\_1 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k3\_zfmisc\_1 \\ (u2\_turing\_1 X0) k4\_numbers (k9\_funct\_2 k4\_numbers (u1\_turing\_1 \\ X0))))\Rightarrow(((k1\_mcart\_1 (u2\_turing\_1 X0) k4\_numbers (k9\_funct\_2 \\ k4\_numbers (u1\_turing\_1 X0)) X1\neq u5\_turing\_1 X0)\Rightarrow(k9\_turing\_1 X0 \\ X0 X1 = k3\_xtuple\_0 (k1\_mcart\_1 (u2\_turing\_1 X0) (u1\_turing\_1 X0) \\ (k8\_domain\_1 k1\_numbers (k1\_real\_1 np\_1) k6\_numbers np\_1) ( \\ k8\_turing\_1 X0 X1)) (k2\_xcmplx\_0 (k7\_turing\_1 X0 X1) (k6\_turing\_1 \\ X0 (k8\_turing\_1 X0 X1))) (k5\_turing\_1 X0 (k3\_mcart\_1 (u2\_turing\_1 \\ X0) k4\_numbers (k9\_funct\_2 k4\_numbers (u1\_turing\_1 X0)) X1) (k7\_turing\_1 \\ X0 X1) (k2\_mcart\_1 (u2\_turing\_1 X0) (u1\_turing\_1 X0) (k8\_domain\_1 \\ k1\_numbers (k1\_real\_1 np\_1) k6\_numbers np\_1) (k8\_turing\_1 X0 \\ X1))))))\wedge((k1\_mcart\_1 (u2\_turing\_1 X0) k4\_numbers (k9\_funct\_2 \\ k4\_numbers (u1\_turing\_1 X0)) X1 = u5\_turing\_1 X0)\Rightarrow(k9\_turing\_1 \\ X0 X1 = X1)))) \end{aligned} \quad (8)$$

### Theorem 1

$$\begin{aligned} \forall X0.(l1\_turing\_1 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k3\_zfmisc\_1 \\ (u2\_turing\_1 X0) k4\_numbers (k9\_funct\_2 k4\_numbers (u1\_turing\_1 \\ X0))))\Rightarrow(\forall X2.\forall X3.\forall X4.(X1 = k3\_xtuple\_0 X2 \\ X3 X4)\Rightarrow((X2 = u5\_turing\_1 X0)\vee(k9\_turing\_1 X0 X1 = k3\_xtuple\_0 ( \\ k1\_mcart\_1 (u2\_turing\_1 X0) (u1\_turing\_1 X0) (k8\_domain\_1 k1\_numbers \\ (k1\_real\_1 np\_1) k6\_numbers np\_1) (k8\_turing\_1 X0 X1)) (k2\_xcmplx\_0 \\ (k7\_turing\_1 X0 X1) (k6\_turing\_1 X0 (k8\_turing\_1 X0 X1))) (k5\_turing\_1 \\ X0 (k3\_mcart\_1 (u2\_turing\_1 X0) k4\_numbers (k9\_funct\_2 k4\_numbers \\ (u1\_turing\_1 X0)) X1) (k7\_turing\_1 X0 X1) (k2\_mcart\_1 (u2\_turing\_1 \\ X0) (u1\_turing\_1 X0) (k8\_domain\_1 k1\_numbers (k1\_real\_1 np\_1) \\ k6\_numbers np\_1) (k8\_turing\_1 X0 X1)))))) \end{aligned}$$