

t47_turing_1
(TMSEssyCdahe4ZgxXkh6oBMeTqbVRzwam3g)

October 27, 2020

Let $l1_turing_1 : \iota \Rightarrow o$ be given. Let $m2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_numbers : \iota$ be given. Let $u1_turing_1 : \iota \Rightarrow \iota$ be given. Let $k32_turing_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_turing_1 : \iota \Rightarrow o$ be given. Let $u2_turing_1 : \iota \Rightarrow \iota$ be given. Let $k21_turing_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $u3_turing_1 : \iota \Rightarrow \iota$ be given. Let $k31_turing_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u4_turing_1 : \iota \Rightarrow \iota$ be given. Let $k1_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u5_turing_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. k2_xboole_0 X0 X0 = X0 \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. ((l1_turing_1 X0) \wedge (l1_turing_1 X1)) \Rightarrow (v1_turing_1 (k32_turing_1 X0 X1)) \wedge (l1_turing_1 (k32_turing_1 X0 X1)) \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_turing_1 X0) \Rightarrow (\forall X1.(l1_turing_1 X1) \Rightarrow (\forall X2. \\
& ((v1_turing_1 X2) \wedge (l1_turing_1 X2)) \Rightarrow ((X2 = k32_turing_1 X0 X1) \Leftrightarrow \\
& ((u1_turing_1 X2 = k2_xboole_0 (u1_turing_1 X0) (u1_turing_1 X1)) \wedge \\
& ((u2_turing_1 X2 = k21_turing_1 X0 X1) \wedge ((r1_funct_2 (k2_zfmisc_1 \\
& (u2_turing_1 X2) (u1_turing_1 X2)) (k3_zfmisc_1 (u2_turing_1 \\
& X2) (u1_turing_1 X2) (k8_domain_1 k1_numbers (k1_real_1 np_1) \\
& k6_numbers np_1)) (k2_zfmisc_1 (k21_turing_1 X0 X1) (k2_xboole_0 \\
& (u1_turing_1 X0) (u1_turing_1 X1))) (k3_zfmisc_1 (k21_turing_1 \\
& X0 X1) (k2_xboole_0 (u1_turing_1 X0) (u1_turing_1 X1)) (k8_domain_1 \\
& k1_numbers (k1_real_1 np_1) k6_numbers np_1)) (u3_turing_1 \\
& X2) (k31_turing_1 X0 X1)) \wedge ((u4_turing_1 X2 = k1_domain_1 (u2_turing_1 \\
& X0) (u2_turing_1 X1) (u4_turing_1 X0) (u4_turing_1 X1)) \wedge (u5_turing_1 \\
& X2 = k1_domain_1 (u2_turing_1 X0) (u2_turing_1 X1) (u5_turing_1 \\
& X0) (u5_turing_1 X1)))))))))
\end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(l1_turing_1 X0) \Rightarrow (\forall X1.(l1_turing_1 X1) \Rightarrow (\forall X2. \\
& (m2_funct_2 X2 k4_numbers (u1_turing_1 (k32_turing_1 X0 X1)) (\\
& k9_funct_2 k4_numbers (u1_turing_1 (k32_turing_1 X0 X1)))) \Rightarrow (\\
& (u1_turing_1 X0 = u1_turing_1 X1) \Rightarrow ((m2_funct_2 X2 k4_numbers (\\
& u1_turing_1 X0) (k9_funct_2 k4_numbers (u1_turing_1 X0))) \wedge (m2_funct_2 \\
& X2 k4_numbers (u1_turing_1 X1) (k9_funct_2 k4_numbers (u1_turing_1 \\
& X1)))))))))
\end{aligned}$$