

t9_pencil_2

(TML98DrJEYKnsCcDLFcC4rKJpkYLF EjCj12)

October 27, 2020

Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_pencil_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_pencil_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_pencil_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_2 : \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1 : \iota \Rightarrow \iota \Rightarrow o. \forall X2. \forall X3. \forall X4. \\
& (((X4 = k1_funct_1 X3 np_1) \wedge (X2 = k1_funct_1 X3 (k3_finseq_1 X3))) \wedge \\
& \quad (\forall X5. (m1_subset_1 X5 k5_numbers) \Rightarrow (\forall X6. \forall X7. \\
& \quad (r1_xxreal_0 np_1 X5) \wedge ((X6 = k1_funct_1 X3 X5) \wedge (X7 = k1_funct_1 \\
& \quad X3 (k2_nat_1 X5 np_1)))) \Rightarrow ((r1_xxreal_0 (k3_finseq_1 X3) X5) \vee \\
& \quad (X1 X6 X7)))) \Rightarrow (\exists X5. ((v2_funct_1 X5) \wedge (m2_finseq_1 X5 X0)) \wedge \\
& ((X4 = k1_funct_1 X5 np_1) \wedge ((X2 = k1_funct_1 X5 (k3_finseq_1 X5)) \wedge \\
& \quad ((r1_tarski (k2_relset_1 X0 X5) (k2_relset_1 X0 X3)) \wedge (\forall X6. \\
& \quad (m1_subset_1 X6 k5_numbers) \Rightarrow ((r1_xxreal_0 np_1 X6) \Rightarrow ((r1_xxreal_0 \\
& \quad (k3_finseq_1 X5) X6) \vee (X1 (k1_funct_1 X5 X6) (k1_funct_1 X5 (k2_nat_1 \\
& \quad X6 np_1))))))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 X0 \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 \\
& \quad (u1_struct_0 X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\
& \quad (u1_struct_0 X0))) \Rightarrow ((r1_pencil_2 X0 X1 X2) \Leftrightarrow (\exists X3. (m2_finseq_1 \\
& \quad X3 (k1_zfmisc_1 (u1_struct_0 X0))) \wedge ((X1 = k1_funct_1 X3 np_1) \wedge \\
& \quad ((X2 = k1_funct_1 X3 (k3_finseq_1 X3)) \wedge (\forall X4. (m1_subset_1 \\
& \quad X4 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((X4 \in k2_relset_1 (k1_zfmisc_1 \\
& \quad (u1_struct_0 X0)) X3) \Rightarrow ((v1_pencil_1 X4 X0) \wedge (v2_pencil_1 X4 X0)))) \wedge \\
& \quad (\forall X4. (m1_subset_1 X4 k5_numbers) \Rightarrow ((r1_xxreal_0 np_1 \\
& \quad X4) \Rightarrow ((r1_xxreal_0 (k3_finseq_1 X3) X4) \vee (r1_tarski np_2 (k1_card_1 \\
& \quad (k3_xboole_0 (k1_funct_1 X3 X4) (k1_funct_1 X3 (k2_nat_1 X4 np_1))))))))))
\end{aligned} \tag{8}$$

Assume the following.

$$\forall X0. \forall X1. k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \tag{9}$$

Theorem 1

$$\begin{aligned}
& \forall X0. (l1_pre_topc X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 \\
& \quad (u1_struct_0 X0))) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\
& \quad (u1_struct_0 X0))) \Rightarrow (\neg (r1_pencil_2 X0 X1 X2) \wedge (\forall X3. ((v2_funct_1 \\
& \quad X3) \wedge (m2_finseq_1 X3 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (\neg (X1 = \\
& \quad k1_funct_1 X3 np_1) \wedge ((X2 = k1_funct_1 X3 (k3_finseq_1 X3)) \wedge ((\\
& \quad \forall X4. (m1_subset_1 X4 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\\
& \quad (X4 \in k2_relset_1 (k1_zfmisc_1 (u1_struct_0 X0)) X3) \Rightarrow ((v1_pencil_1 \\
& \quad X4 X0) \wedge (v2_pencil_1 X4 X0)))) \wedge (\forall X4. (m1_subset_1 X4 k5_numbers) \Rightarrow \\
& \quad ((r1_xxreal_0 np_1 X4) \Rightarrow ((r1_xxreal_0 (k3_finseq_1 X3) X4) \vee (\\
& \quad r1_tarski np_2 (k1_card_1 (k3_xboole_0 (k1_funct_1 X3 X4) (k1_funct_1 \\
& \quad X3 (k2_nat_1 X4 np_1))))))))))
\end{aligned}$$