

l1_topreal5 (TM- cybSR71S3HSzetzG71CvnMJVTXgFYhAD4)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v5_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & (((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))) \wedge ((v1_funct_1 X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X2 X3)))) \Rightarrow (k1_partfun1 X0 X1 X2 X3 X4 X5 = k3_relat_1 X4 X5) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. (((\neg v2_struct_0 \\ & X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \wedge (((\neg v2_struct_0 X1) \wedge \\ & ((v2_pre_topc X1) \wedge (l1_pre_topc X1))) \wedge (((\neg v2_struct_0 X2) \wedge \\ & (v2_pre_topc X2) \wedge (l1_pre_topc X2))) \wedge (((v1_funct_1 X3) \wedge ((v1_funct_2 \\ & X3 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge ((v5_pre_topc X3 X0 X1) \wedge \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 \\ & X1)))))) \wedge ((v1_funct_1 X4) \wedge ((v1_funct_2 X4 (u1_struct_0 X1) \\ & (u1_struct_0 X2)) \wedge ((v5_pre_topc X4 X1 X2) \wedge (m1_subset_1 X4 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X2)))))))))) \Rightarrow ((\\ & v1_funct_1 (k3_relat_1 X3 X4) \wedge ((v1_funct_2 (k3_relat_1 X3 X4) \\ & (u1_struct_0 X0) (u1_struct_0 X2)) \wedge (v5_pre_topc (k3_relat_1 \\ & X3 X4) X0 X2))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & (((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))) \wedge ((v1_funct_1 X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X2 X3)))) \Rightarrow ((v1_funct_1 (k1_partfun1 X0 X1 X2 X3 X4 X5) \wedge (m1_subset_1 \\ & (k1_partfun1 X0 X1 X2 X3 X4 X5) (k1_zfmisc_1 (k2_zfmisc_1 X0 X3)))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_pre_topc X1) \wedge (l1_pre_topc \\ & X1))) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge ((v2_pre_topc X2) \wedge (l1_pre_topc \\ & X2)))) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 \\ & X0) (u1_struct_0 X1)) \wedge ((v5_pre_topc X3 X0 X1) \wedge (m1_subset_1 X3 \\ & (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1))))))) \Rightarrow \\ & (\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 X4 (u1_struct_0 X1) \\ & (u1_struct_0 X2)) \wedge ((v5_pre_topc X4 X1 X2) \wedge (m1_subset_1 X4 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X2))))))) \Rightarrow ((v1_funct_1 \\ & (k1_partfun1 (u1_struct_0 X0) (u1_struct_0 X1) (u1_struct_0 X1) \\ & (u1_struct_0 X2) X3 X4)) \wedge ((v1_funct_2 (k1_partfun1 (u1_struct_0 \\ & X0) (u1_struct_0 X1) (u1_struct_0 X1) (u1_struct_0 X2) X3 X4) (u1_struct_0 \\ & X0) (u1_struct_0 X2)) \wedge ((v5_pre_topc (k1_partfun1 (u1_struct_0 \\ & X0) (u1_struct_0 X1) (u1_struct_0 X1) (u1_struct_0 X2) X3 X4) X0 \\ & X2) \wedge (m1_subset_1 (k1_partfun1 (u1_struct_0 X0) (u1_struct_0 \\ & X1) (u1_struct_0 X1) (u1_struct_0 X2) X3 X4) (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 X0) (u1_struct_0 X2)))))))))) \end{aligned}$$