

t16_substlat

(TMNq5gZF7F1FYHSC7diUgJ8ZEEUZjWveKwK)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_finsub_1 : \iota \Rightarrow \iota$ be given. Let $k4_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_substlat : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k5_finsub_1 \\
 & (k4_partfun1 X0 X1))) \Rightarrow (\forall X3. (m1_subset_1 X3 (k5_finsub_1 \\
 & (k4_partfun1 X0 X1))) \Rightarrow (k4_substlat X0 X1 X2 X3 = ReplSep2 (toset \\
 & (\lambda X4 : \iota. m1_subset_1 X4 (k4_partfun1 X0 X1))) (\lambda X4 : \iota. \\
 & toset (\lambda X5 : \iota. m1_subset_1 X5 (k4_partfun1 X0 X1))) (\lambda X4 : \\
 & \iota. \lambda X5 : \iota. (X4 \in X2) \wedge ((X5 \in X3) \wedge (r1_partfun1 X4 X5)))) (\lambda X4 : \\
 & \iota. \lambda X5 : \iota. k2_xboole_0 X4 X5)))
 \end{aligned} \tag{1}$$

Theorem 1

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k5_finsub_1 \\
 & (k4_partfun1 X0 X1))) \Rightarrow (\forall X3. (m1_subset_1 X3 (k5_finsub_1 \\
 & (k4_partfun1 X0 X1))) \Rightarrow (\forall X4. (m1_subset_1 X4 (k4_partfun1 \\
 & X0 X1))) \Rightarrow (\forall X5. (m1_subset_1 X5 (k4_partfun1 X0 X1))) \Rightarrow (((X4 \in \\
 & X2) \wedge ((X5 \in X3) \wedge (r1_partfun1 X4 X5))) \Rightarrow (k2_xboole_0 X4 X5 \in k4_substlat \\
 & X0 X1 X2 X3))))
 \end{aligned}$$