

t9_dist_1
(TMGFj6ymdPLwq6goMNvT9CVxHL9garRpHcN)

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Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_dist_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_dist_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_finset_1 X0) \Rightarrow (\forall X1.(m2_finseq_1 X1 X0) \Rightarrow \\ & (\forall X2.(m2_finseq_1 X2 X0) \Rightarrow ((r1_dist_1 X0 X1 X2) \Leftrightarrow (X2 \in k5_dist_1 \\ & \quad X0 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_finset_1 X0) \Rightarrow (\forall X1.(m2_finseq_1 X1 X0) \Rightarrow \\ & (\forall X2.(m2_finseq_1 X2 X0) \Rightarrow (\forall X3.(m2_finseq_1 X3 X0) \Rightarrow \\ & (((r1_dist_1 X0 X1 X2) \wedge (r1_dist_1 X0 X2 X3)) \Rightarrow (r1_dist_1 X0 X1 X3)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_finset_1 X0) \wedge ((m1_finseq_1 \\ & X1 X0) \wedge (m1_finseq_1 X2 X0))) \Rightarrow ((r1_dist_1 X0 X1 X2) \Rightarrow (r1_dist_1 \\ & \quad X0 X2 X1)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_finset_1 X0) \wedge ((m1_finseq_1 \\ & X1 X0) \wedge (m1_finseq_1 X2 X0))) \Rightarrow (r1_dist_1 X0 X1 X1) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_finset_1 X0) \Rightarrow (\forall X1.(m2_finseq_1 X1 X0) \Rightarrow \\ & (k5_dist_1 X0 X1 = \text{ReplSep } (\text{toSet } (\lambda X2 : \iota.m2_finseq_1 X2 X0)) \\ & \quad (\lambda X2 : \iota.r1_dist_1 X0 X1 X2) (\lambda X2 : \iota.X2))) \end{aligned} \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarSKI X0 X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow (X2 \in X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1_tarSKI X0 X1)\wedge(r1_tarSKI X1 X0)) \quad (8)$$

Theorem 1

$$\begin{aligned} &\forall X0.(v1_finset_1 X0)\Rightarrow(\forall X1.(m2_finseq_1 X1 X0)\Rightarrow \\ &(\forall X2.(m2_finseq_1 X2 X0)\Rightarrow((r1_dist_1 X0 X1 X2)\Leftrightarrow(k5_dist_1 \\ &X0 X1 = k5_dist_1 X0 X2)))) \end{aligned}$$