

t78_pzfmisc1

(TMT9C9SLaEa5DTV2N7ZffZmDDHNkG2Fobo6)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r6_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_pboole : \iota \Rightarrow \iota$ be given. Let $k6_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge \\ & (v1_funct_1 X1) \wedge (v1_partfun1 X1 X0))) \Rightarrow (\forall X2. ((v1_relat_1 \\ X2) \wedge ((v4_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 X0)))) \Rightarrow \\ & (\forall X3. ((v1_relat_1 X3) \wedge ((v4_relat_1 X3 X0) \wedge ((v1_funct_1 \\ X3) \wedge (v1_partfun1 X3 X0)))) \Rightarrow (\forall X4. ((v1_relat_1 X4) \wedge ((v4_relat_1 \\ X4 X0) \wedge ((v1_funct_1 X4) \wedge (v1_partfun1 X4 X0)))) \Rightarrow (((r6_pboole \\ X0 (k3_pboole X0 X1 X2) (k1_pboole X0)) \vee (r6_pboole X0 (k3_pboole \\ X0 X3 X4) (k1_pboole X0))) \Rightarrow (r6_pboole X0 (k3_pboole X0 (k6_pboole \\ X0 X1 X3) (k6_pboole X0 X2 X4)) (k1_pboole X0)))))) \end{aligned} \tag{1}$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge \\ & (v1_funct_1 X1) \wedge (v1_partfun1 X1 X0))) \Rightarrow (\forall X2. ((v1_relat_1 \\ X2) \wedge ((v4_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 X0)))) \Rightarrow \\ & ((r6_pboole X0 (k3_pboole X0 X1 X2) (k1_pboole X0)) \Rightarrow (r6_pboole \\ X0 (k3_pboole X0 (k6_pboole X0 X1 X2) (k6_pboole X0 X2 X1)) (k1_pboole \\ X0)))) \end{aligned}$$