

t43_ndiff_5

(TMWf85Y2yS2mm4XF91A3B1QwQJ9qxc3m4hJ)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $v2_prvect_2 : \iota \Rightarrow o$ be given. Let $v1_ndiff_5 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_card_3 : \iota \Rightarrow \iota$ be given. Let $k4_prvect_2 : \iota \Rightarrow \iota$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_card_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ be given. Let $v1_prvect_2 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (k4_card_3 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k4_card_3 X0)) \Rightarrow \\ & (\forall X3.m1_subset_1 (k1_funct_4 X1 (k5_relat_1 X2 X3)) (k4_card_3 \\ & X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((v1_relat_1 X0) \wedge ((v2_relat_1 \\ & X0) \wedge (v1_funct_1 X0))) \wedge (m1_subset_1 X1 (k4_card_3 X0))) \Rightarrow (k11_card_3 \\ & X0 X1 X2 = k5_relat_1 X1 X2) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((\neg v1_xboole_0 \\ & X0) \wedge ((v1_finseq_1 X0) \wedge (v1_prvect_2 X0)))))) \Rightarrow ((v1_relat_1 (k4_prvect_2 \\ & X0)) \wedge ((v2_relat_1 (k4_prvect_2 X0)) \wedge ((v1_funct_1 (k4_prvect_2 \\ & X0)) \wedge ((\neg v1_xboole_0 (k4_prvect_2 X0)) \wedge (v1_finseq_1 (k4_prvect_2 \\ & X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finseq_1 \\ & X0) \wedge (v2_prvect_2 X0)))) \Rightarrow ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge \\ & ((v1_finseq_1 X0) \wedge (v1_prvect_2 X0)))) \end{aligned} \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v1_funct_1 \\ & X0) \wedge ((v1_finseq_1 X0) \wedge ((v2_prvect_2 X0) \wedge (v1_ndiff_5 X0)))))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (k4_card_3 (k4_prvect_2 X0))) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k4_card_3 (k4_prvect_2 X0))) \Rightarrow (\forall X3.m1_subset_1 \\ & (k1_funct_4 X1 (k11_card_3 (k4_prvect_2 X0) X2 X3) (k4_card_3 \\ & (k4_prvect_2 X0)))))) \end{aligned}$$