

t32_equation

(TMSTd7bYoKQrRtLCirjwFtkvZWcTBAkKs9q)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $v4_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m3_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_equation : \iota \Rightarrow \iota$ be given. Let $v3_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_msualg_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_equation : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_equation : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\ & X0))) \Rightarrow (\forall X1.((v4_msualg_1 X1 X0) \wedge (l3_msualg_1 X1 X0)) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 (k1_funct_1 (k4_equation X0) X2)) \Rightarrow (\forall X4.((v3_msualg_1 \\ & X4 X0) \wedge ((v4_msualg_1 X4 X0) \wedge (m1_msualg_2 X4 X0 X1)))) \Rightarrow ((r1_equation \\ & X0 X1 X2 X3) \Rightarrow (r1_equation X0 X4 X2 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge \\ & (l1_msualg_1 X0))) \wedge (l3_msualg_1 X1 X0)) \Rightarrow (\forall X2.(m1_msualg_2 \\ & X2 X0 X1) \Rightarrow (l3_msualg_1 X2 X0)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\ & X0))) \Rightarrow (\forall X1.(l3_msualg_1 X1 X0) \Rightarrow (\forall X2.(m3_pboole \\ & X2 (u1_struct_0 X0) (k4_equation X0)) \Rightarrow ((r2_equation X0 X1 X2) \Leftrightarrow \\ & (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 \\ & X4 (k1_funct_1 (k4_equation X0) X3)) \Rightarrow ((X4 \in k1_funct_1 X2 X3) \Rightarrow (\\ & r1_equation X0 X1 X3 X4)))))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\ & X0))) \Rightarrow (\forall X1.((v4_msualg_1 X1 X0) \wedge (l3_msualg_1 X1 X0)) \Rightarrow \\ & (\forall X2.(m3_pboole X2 (u1_struct_0 X0) (k4_equation X0)) \Rightarrow \\ & (\forall X3.((v3_msualg_1 X3 X0) \wedge ((v4_msualg_1 X3 X0) \wedge (m1_msualg_2 \\ & X3 X0 X1)))) \Rightarrow ((r2_equation X0 X1 X2) \Rightarrow (r2_equation X0 X3 X2)))))) \end{aligned}$$