

t41_complex2
(TMQpkw3SkRD7u76zv86NHVv4zEVY11oLmK6)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_numbers : \iota$ be given. Let $k1_complex2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_complex1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k2_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k2_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k2_numbers) \Rightarrow (k1_complex2 \\ & X0 (k9_complex1 X1 X2) = k9_complex1 (k15_complex1 X1) (k1_complex2 \\ & X0 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k2_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k2_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k2_numbers) \Rightarrow (k1_complex2 \\ & X0 (k8_complex1 X1 X2) = k8_complex1 (k1_complex2 X0 X1) (k1_complex2 \\ & X0 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k2_numbers) \wedge (m1_subset_1 X1 k2_numbers)) \Rightarrow (m1_subset_1 (k9_complex1 X0 X1) k2_numbers) \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k2_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k2_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k2_numbers) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 k2_numbers) \Rightarrow (\forall X4.(m1_subset_1 X4 k2_numbers) \Rightarrow \\ & (k1_complex2 X0 (k8_complex1 (k9_complex1 X1 X2) (k9_complex1 \\ & X3 X4)) = k8_complex1 (k9_complex1 (k15_complex1 X1) (k1_complex2 \\ & X0 X2)) (k9_complex1 (k15_complex1 X3) (k1_complex2 X0 X4)))))) \end{aligned}$$