

t15_arytm_1
(TMT9tVAtQZcRY5hSbEGRw75LnFtSD5ns1Vo)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_arytm_2 : \iota$ be given. Let $r1_arytm_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_arytm_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_arytm_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k2_arytm_2) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 k2_arytm_2) \Rightarrow (\forall X2.(m1_subset_1 X2 k2_arytm_2) \Rightarrow (((r1_arytm_2 \\ X0 X1) \wedge (r1_arytm_2 X0 X2)) \Rightarrow (k7_arytm_2 X1 (k1_arytm_1 X2 X0) = k7_arytm_2 \\ (k1_arytm_1 X1 X0) X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k2_arytm_2) \wedge (m1_subset_1 \\ X1 k2_arytm_2)) \Rightarrow (m1_subset_1 (k1_arytm_1 X0 X1) k2_arytm_2) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k2_arytm_2) \wedge (m1_subset_1 \\ X1 k2_arytm_2)) \Rightarrow (k7_arytm_2 X0 X1 = k7_arytm_2 X1 X0) \quad (3)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k2_arytm_2) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 k2_arytm_2) \Rightarrow (\forall X2.(m1_subset_1 X2 k2_arytm_2) \Rightarrow (((r1_arytm_2 \\ X0 X1) \wedge (r1_arytm_2 X0 X2)) \Rightarrow (k7_arytm_2 (k1_arytm_1 X2 X0) X1 = k7_arytm_2 \\ (k1_arytm_1 X1 X0) X2)))) \end{aligned}$$