

t17_arytm_1
(TMFG1uJhcoSZfYX3RvTzbEyFB76og1mnwK9)

October 27, 2020

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 $k1_arytm_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_arytm_2) \Rightarrow (\forall X1.(m1_subset_1 X1 k2_arytm_2) \Rightarrow (r1_arytm_2 (k1_arytm_1 X0 X1) X0)) \quad (1)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_arytm_2) \Rightarrow (\forall X1.(m1_subset_1 X1 k2_arytm_2) \Rightarrow (\forall X2.(m1_subset_1 X2 k2_arytm_2) \Rightarrow (k1_arytm_1 (k1_arytm_1 X0 X1) X2 = k1_arytm_1 (k1_arytm_1 X0 X2) X1))) \quad (2)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_arytm_2) \Rightarrow (\forall X1.(m1_subset_1 X1 k2_arytm_2) \Rightarrow ((r1_arytm_2 X0 X1) \Rightarrow (k1_arytm_1 X1 (k1_arytm_1 X1 X0) = X0))) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k2_arytm_2) \wedge (m1_subset_1 X1 k2_arytm_2)) \Rightarrow (m1_subset_1 (k1_arytm_1 X0 X1) k2_arytm_2) \quad (4)$$

Theorem 1

$$\forall X0.(m1_subset_1 X0 k2_arytm_2) \Rightarrow (\forall X1.(m1_subset_1 X1 k2_arytm_2) \Rightarrow (\forall X2.(m1_subset_1 X2 k2_arytm_2) \Rightarrow ((r1_arytm_2 X0 X1) \Rightarrow (r1_arytm_2 (k1_arytm_1 X0 X2) (k1_arytm_1 X1 X2))))))$$