

l3_arytm_1 (TMYmSjAPJKTjpyCmWw- gaN58urK3GaJ7WHbJ)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_arytm_2 : \iota$ be given. Let $k8_arytm_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_arytm_3 : \iota$ be given. Let $k12_arytm_3 : \iota$ be given. Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_arytm_2) \Rightarrow (\forall X1.(m1_subset_1 X1 k2_arytm_2) \Rightarrow ((X0 = k12_arytm_3) \Rightarrow (k8_arytm_2 X0 X1 = X1))) \quad (1)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_arytm_2) \Rightarrow (\neg(X0 \neq k11_arytm_3) \wedge (\forall X1.(m1_subset_1 X1 k2_arytm_2) \Rightarrow (k8_arytm_2 X0 X1 \neq k12_arytm_3))) \quad (2)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_arytm_2) \Rightarrow (\forall X1.(m1_subset_1 X1 k2_arytm_2) \Rightarrow (\forall X2.(m1_subset_1 X2 k2_arytm_2) \Rightarrow (k8_arytm_2 X0 (k8_arytm_2 X1 X2) = k8_arytm_2 (k8_arytm_2 X0 X1) X2))) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k2_arytm_2) \wedge (m1_subset_1 X1 k2_arytm_2)) \Rightarrow (m1_subset_1 (k8_arytm_2 X0 X1) k2_arytm_2) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k2_arytm_2) \wedge (m1_subset_1 X1 k2_arytm_2)) \Rightarrow (k8_arytm_2 X0 X1 = k8_arytm_2 X1 X0) \quad (5)$$

Theorem 1

$$\forall X0.(m1_subset_1 X0 k2_arytm_2) \Rightarrow (\forall X1.(m1_subset_1 X1 k2_arytm_2) \Rightarrow (\forall X2.(m1_subset_1 X2 k2_arytm_2) \Rightarrow ((k8_arytm_2 X0 X1 = k8_arytm_2 X0 X2) \Rightarrow ((X0 = k11_arytm_3) \vee (X1 = X2)))))$$