

t10_arytm_0

(TMR8co3VyVvrogdMLcjZUgftKbFwtoXnqN1)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_arytm_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $k4_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 k1_numbers) \Rightarrow (\neg k5_funct_4 k1_numbers k6_numbers np_1 X0 X1 \in \\ k1_numbers)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ (k4_funct_4 X0 X1 X2 X3 = k4_funct_4 X0 X1 X4 X5) \Rightarrow ((X0 = X1) \vee ((X2 = X4) \wedge \\ (X3 = X5))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \tag{3}$$

Assume the following.

$$\neg v1_xboole_0 np_1 \tag{4}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \tag{5}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1_xboole_0 \\ X0) \wedge ((m1_subset_1 X3 X0) \wedge (m1_subset_1 X4 X0))) \Rightarrow (k5_funct_4 X0 \\ X1 X2 X3 X4 = k4_funct_4 X1 X2 X3 X4) \end{aligned} \tag{6}$$

Assume the following.

$$v1_xboole_0 \ k1_xboole_0 \tag{7}$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \tag{8}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 \ X0 \ k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 \ k1_numbers) \Rightarrow (((X1 = k6_numbers) \Rightarrow (k5_arytm_0 \ X0 \ X1 = X0)) \wedge ((\\ X1 \neq k6_numbers) \Rightarrow (k5_arytm_0 \ X0 \ X1 = k5_funct_4 \ k1_numbers \ k6_numbers \\ np_1 \ X0 \ X1)))) \end{aligned} \tag{9}$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_subset_1 \ X0 \ k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 \ k1_numbers) \Rightarrow (\forall X2.(m1_subset_1 \ X2 \ k1_numbers) \Rightarrow (\forall X3. \\ (m1_subset_1 \ X3 \ k1_numbers) \Rightarrow ((k5_arytm_0 \ X0 \ X1 = k5_arytm_0 \ X2 \\ X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3)))))) \end{aligned}$$