

t36_arytm_3

(TMRArNkepertasJjPssi5GKVohKipckKrWh6)

October 27, 2020

Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_arytm_3 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_arytm_3 : \iota \Rightarrow \iota$ be given. Let $k7_arytm_3 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $r1_arytm_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k5_arytm_3) \Rightarrow & (\neg(\neg X0 \in k4_ordinal1) \wedge \\ & (\forall X1.(m1_subset_1 X1 k4_ordinal1) \Rightarrow (\forall X2.(m1_subset_1 \\ X2 k4_ordinal1) \Rightarrow & (\neg(X0 = k4_tarski X1 X2) \wedge ((r1_arytm_3 X1 X2) \wedge \\ & (X2 \neq k1_xboole_0) \wedge (X2 \neq np_1))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(k4_tarski X0 X1 = k4_tarski X2 X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3)) \quad (2)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k5_arytm_3) \Rightarrow (m1_subset_1 (k7_arytm_3 X0) k4_ordinal1) \quad (3)$$

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$$\forall X0.(m1_subset_1 X0 k5_arytm_3) \Rightarrow (m1_subset_1 (k6_arytm_3 X0) k4_ordinal1) \quad (4)$$

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$$\begin{aligned} \forall X0.(m1_subset_1 X0 k5_arytm_3) \Rightarrow & (\forall X1.(m1_subset_1 \\ X1 k4_ordinal1) \Rightarrow & (((X0 \in k4_ordinal1) \Rightarrow ((X1 = k7_arytm_3 X0) \Leftrightarrow (X1 = \\ & np_1))) \wedge ((\neg X0 \in k4_ordinal1) \Rightarrow ((X1 = k7_arytm_3 X0) \Leftrightarrow (\exists X2. \\ & ((v3_ordinal1 X2) \wedge (v7_ordinal1 X2)) \wedge (X0 = k4_tarski X2 X1)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_arytm_3) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k4_ordinal1) \Rightarrow (((X0 \in k4_ordinal1) \Rightarrow ((X1 = k6_arytm_3 X0) \Leftrightarrow (X1 = \\ & X0))) \wedge ((\neg X0 \in k4_ordinal1) \Rightarrow ((X1 = k6_arytm_3 X0) \Leftrightarrow (\exists X2. \\ & ((v3_ordinal1 X2) \wedge (v7_ordinal1 X2)) \wedge (X0 = k4_tarski X1 X2)))))) \end{aligned} \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_arytm_3) \Rightarrow ((\neg X0 \in k4_ordinal1) \Rightarrow \\ & ((X0 = k4_tarski (k6_arytm_3 X0) (k7_arytm_3 X0)) \wedge (k7_arytm_3 \\ & X0 \neq np_1))) \end{aligned}$$