

t21_arytm_3

(TMK1L6RS2F6699KP66yCtkD92WtaBt9bJrY)

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Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k9_ordinal3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_arytm_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_arytm_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_arytm_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_ordinal3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \Rightarrow (\forall X1. \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1)) \Rightarrow ((r2_arytm_3 X1 X0) \Leftrightarrow (X0 = \\ & k9_ordinal3 X1 (k6_ordinal3 X0 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \wedge \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1))) \Rightarrow ((v3_ordinal1 (k6_ordinal3 \\ & X0 X1)) \wedge (v7_ordinal1 (k6_ordinal3 X0 X1))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \wedge \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1))) \Rightarrow (m1_subset_1 (k3_arytm_3 \\ & X0 X1) k4_ordinal1) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \Rightarrow (\forall X1. \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1)) \Rightarrow (k4_arytm_3 X0 X1 = k6_ordinal3 \\ & X0 (k3_arytm_3 X0 X1))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \Rightarrow (\forall X1. \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 k4_ordinal1) \Rightarrow ((X2 = k3_arytm_3 X0 X1) \Leftrightarrow ((r2_arytm_3 X2 X0) \wedge \\ & (r2_arytm_3 X2 X1) \wedge (\forall X3.((v3_ordinal1 X3) \wedge (v7_ordinal1 \\ & X3)) \Rightarrow ((r2_arytm_3 X3 X0) \wedge (r2_arytm_3 X3 X1)) \Rightarrow (r2_arytm_3 X3 \\ & X2)))))) \end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \wedge \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1))) \Rightarrow (k9_ordinal3 X0 X1 = k9_ordinal3 \\ & X1 X0) \end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \wedge \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1))) \Rightarrow (k3_arytm_3 X0 X1 = k3_arytm_3 \\ & X1 X0) \end{aligned} \tag{7}$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \tag{8}$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (v3_ordinal1 X0) \tag{9}$$

Theorem 1

$$\begin{aligned} & \forall X0. ((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \Rightarrow (\forall X1. \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1)) \Rightarrow (k9_ordinal3 (k4_arytm_3 \\ & X0 X1) (k3_arytm_3 X0 X1) = X0)) \end{aligned}$$