

t12_arytm_3 (TMWau- rQteiot5oPuudQduUPUYdAd619KYd4)

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Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r2_arytm_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_arytm_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_ordinal3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_ordinal2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \Rightarrow (\forall X1. \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1)) \Rightarrow ((r2_arytm_3 X0 X1) \Leftrightarrow (\exists X2. \\ & ((v3_ordinal1 X2) \wedge (v7_ordinal1 X2)) \wedge (X1 = k9_ordinal3 X0 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \wedge \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1))) \Rightarrow (k9_ordinal3 X0 X1 = k11_ordinal2 \\ & X0 X1) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \wedge \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1))) \Rightarrow ((v3_ordinal1 (k11_ordinal2 \\ & X0 X1)) \wedge (v7_ordinal1 (k11_ordinal2 X0 X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \wedge \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1))) \Rightarrow (m1_subset_1 (k2_arytm_3 \\ & X0 X1) k4_ordinal1) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \Rightarrow (\forall X1. \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1)) \Rightarrow (\forall X2. (m1_subset_1 \\ & X2 k4_ordinal1) \Rightarrow ((X2 = k2_arytm_3 X0 X1) \Leftrightarrow ((r2_arytm_3 X0 X2) \wedge \\ & (r2_arytm_3 X1 X2)) \wedge (\forall X3. ((v3_ordinal1 X3) \wedge (v7_ordinal1 \\ & X3)) \Rightarrow (((r2_arytm_3 X0 X3) \wedge (r2_arytm_3 X1 X3)) \Rightarrow (r2_arytm_3 X2 \\ & X3)))))) \end{aligned} \quad (5)$$

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.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (v3_ordinal1 X0) \tag{7}$$

Theorem 1

$$\begin{aligned} & \forall X0. ((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \Rightarrow (\forall X1. \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1)) \Rightarrow (r2_arytm_3 (k2_arytm_3 \\ & X0 X1) (k9_ordinal3 X0 X1))) \end{aligned}$$