

t7_arytm_3
(TMNfZY73gCS4A76Q5q3zh4si9DZqtpkJM54)

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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 $k9_ordinal3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_ordinal3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k11_ordinal2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_ordinal2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v3_ordinal1 X0) \Rightarrow ((X0 \neq k1_xboole_0) \Rightarrow (k1_xboole_0 \in X0)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \Rightarrow (\forall X1. \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1)) \Rightarrow ((r2_arytm_3 X0 X1) \Leftrightarrow (\exists X2. \\ & ((v3_ordinal1 X2) \wedge (v7_ordinal1 X2)) \wedge (X1 = k9_ordinal3 X0 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(v3_ordinal1 X0) \Rightarrow (k11_ordinal2 k1_xboole_0 X0 = k1_xboole_0) \quad (3)$$

Assume the following.

$$\forall X0.(v3_ordinal1 X0) \Rightarrow (k10_ordinal2 X0 k1_xboole_0 = X0) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \wedge \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1))) \Rightarrow (k9_ordinal3 X0 X1 = k11_ordinal2 \\ & X0 X1) \end{aligned} \quad (6)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \wedge \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1))) \Rightarrow ((v3_ordinal1 (k6_ordinal3 \\ & X0 X1)) \wedge (v7_ordinal1 (k6_ordinal3 X0 X1))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. ((v3_ordinal1 X0) \wedge (v3_ordinal1 X1)) \Rightarrow (v3_ordinal1 (k11_ordinal2 X0 X1)) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v3_ordinal1 X0) \Rightarrow (\forall X1. (v3_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v3_ordinal1 X2) \Rightarrow (((X1 \neq k1_xboole_0) \Rightarrow ((X2 = k6_ordinal3 X0 X1) \Leftrightarrow \\ & (\exists X3. (v3_ordinal1 X3) \wedge ((X0 = k10_ordinal2 (k11_ordinal2 \\ & X2 X1) X3) \wedge (X3 \in X1)))))) \wedge ((X1 = k1_xboole_0) \Rightarrow ((X2 = k6_ordinal3 \\ & X0 X1) \Leftrightarrow (X2 = k1_xboole_0)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0. (v3_ordinal1 X0) \Rightarrow (\forall X1. (v3_ordinal1 X1) \Rightarrow ((r2_arytm_3 X0 X1) \Leftrightarrow (\exists X2. (v3_ordinal1 X2) \wedge (X1 = k11_ordinal2 X0 X2)))) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v3_ordinal1 X0) \wedge (v7_ordinal1 X0)) \wedge \\ & ((v3_ordinal1 X1) \wedge (v7_ordinal1 X1))) \Rightarrow (k9_ordinal3 X0 X1 = k9_ordinal3 \\ & X1 X0) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (v3_ordinal1 X0) \quad (13)$$

Assume the following.

$$\forall X0. (v3_ordinal1 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow (v3_ordinal1 X1)) \quad (14)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (v3_ordinal1 X0) \quad (15)$$

Theorem 1

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