

# t5\_arytm\_3 (TMQwNGMFFHLLhY- dbV2aXmeWMMWEHovMBeUR)

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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  $k11\_ordinal2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v3\_ordinal1 X0) \Rightarrow (\forall X1.(v3\_ordinal1 X1) \Rightarrow ((v7\_ordinal1 (k11\_ordinal2 X0 X1)) \Rightarrow ((v1\_xboole\_0 (k11\_ordinal2 X0 X1)) \vee ((X0 \in k4\_ordinal1) \wedge (X1 \in k4\_ordinal1)))))) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$\forall X0.(v3\_ordinal1 X0) \Rightarrow (k11\_ordinal2 X0 k1\_xboole\_0 = k1\_xboole\_0) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(((v3\_ordinal1 X0) \wedge (v7\_ordinal1 X0)) \wedge ((v3\_ordinal1 X1) \wedge (v7\_ordinal1 X1))) \Rightarrow (k9\_ordinal3 X0 X1 = k11\_ordinal2 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.(v3\_ordinal1 X0) \Rightarrow (\forall X1.(v3\_ordinal1 X1) \Rightarrow ((r2\_arytm\_3 X0 X1) \Leftrightarrow (\exists X2.(v3\_ordinal1 X2) \wedge (X1 = k11\_ordinal2 X0 X2)))) \quad (6)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (7)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v3\_ordinal1 X0) \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v3\_ordinal1 X0) \wedge (v7\_ordinal1 X0)) \Rightarrow (\forall X1. \\ & ((v3\_ordinal1 X1) \wedge (v7\_ordinal1 X1)) \Rightarrow ((r2\_arytm\_3 X0 X1) \Leftrightarrow (\exists X2. \\ & ((v3\_ordinal1 X2) \wedge (v7\_ordinal1 X2)) \wedge (X1 = k9\_ordinal3 X0 X2)))) \end{aligned}$$