

# t73\_arytm\_3 (TMN- SAVS8u3Tapcive1Rmm9HAxN3bG78YjY9)

October 27, 2020

Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_arytm\_3 : \iota$  be given. Let  $k11\_arytm\_3 : \iota$  be given. Let  $r3\_arytm\_3 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k9\_arytm\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_arytm\_3 : \iota$  be given. Let  $k1\_arytm\_3 : \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k5\_arytm\_3) \Rightarrow (\forall X1.((v3\_ordinal1 \\ X1) \wedge (m1\_subset\_1 X1 k5\_arytm\_3)) \Rightarrow (\neg(\neg r3\_arytm\_3 X0 X1) \wedge (\neg r3\_arytm\_3 \\ (k9\_arytm\_3 X1 k12\_arytm\_3) X0) \wedge (X0 \in k4\_ordinal1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k5\_arytm\_3) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 k5\_arytm\_3) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k5\_arytm\_3) \Rightarrow (((r3\_arytm\_3 \\ X0 X1) \wedge (r3\_arytm\_3 X1 X2)) \Rightarrow (r3\_arytm\_3 X0 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k5\_arytm\_3) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 k5\_arytm\_3) \Rightarrow (((r3\_arytm\_3 X0 X1) \wedge (r3\_arytm\_3 X1 X0)) \Rightarrow (X0 = \\ X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k5\_arytm\_3) \Rightarrow (r3\_arytm\_3 k11\_arytm\_3 X0) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k5\_arytm\_3) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 k5\_arytm\_3) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k5\_arytm\_3) \Rightarrow (((k9\_arytm\_3 \\ X0 X1 = k9\_arytm\_3 X2 X1) \Rightarrow (X0 = X2)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k5\_arytm\_3) \Rightarrow (\exists X1.(m1\_subset\_1 \\ X1 k5\_arytm\_3) \wedge (X0 = k9\_arytm\_3 X1 X1)) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k5\_arytm\_3) \Rightarrow (k9\_arytm\_3 X0 k11\_arytm\_3 = X0) \quad (7)$$

Assume the following.

$$k12\_arytm\_3 = k1\_arytm\_3 \quad (8)$$

Assume the following.

$$k11\_arytm\_3 = k1\_xboole\_0 \quad (9)$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k5\_arytm\_3) \wedge (m1\_subset\_1 X1 k5\_arytm\_3)) \Rightarrow (m1\_subset\_1 (k9\_arytm\_3 X0 X1) k5\_arytm\_3) \quad (11)$$

Assume the following.

$$(\neg v1\_xboole\_0 k12\_arytm\_3) \wedge ((v3\_ordinal1 k12\_arytm\_3) \wedge (m1\_subset\_1 k12\_arytm\_3 k5\_arytm\_3)) \quad (12)$$

Assume the following.

$$m1\_subset\_1 k11\_arytm\_3 k5\_arytm\_3 \quad (13)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k5\_arytm\_3) \Rightarrow (\forall X1.(m1\_subset\_1 X1 k5\_arytm\_3) \Rightarrow ((r3\_arytm\_3 X0 X1) \Leftrightarrow (\exists X2.(m1\_subset\_1 X2 k5\_arytm\_3) \wedge (X1 = k9\_arytm\_3 X0 X2)))) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k5\_arytm\_3) \wedge (m1\_subset\_1 X1 k5\_arytm\_3)) \Rightarrow ((r3\_arytm\_3 X0 X1) \vee (r3\_arytm\_3 X1 X0)) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k5\_arytm\_3) \wedge (m1\_subset\_1 X1 k5\_arytm\_3)) \Rightarrow (k9\_arytm\_3 X0 X1 = k9\_arytm\_3 X1 X0) \quad (16)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (v3\_ordinal1 X0) \quad (17)$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1 X0 k5\_arytm\_3) \Rightarrow (\neg (X0 \neq k11\_arytm\_3) \wedge (\forall X1.(m1\_subset\_1 X1 k5\_arytm\_3) \Rightarrow (\neg (\neg r3\_arytm\_3 X0 X1) \wedge (\neg X1 \in k4\_ordinal1))))$$