

# t56\_arytm\_3

(TMT8WT74aHpaEEfLNoQpC4P7wBzK3Zrz4BJ)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_arytm\_3 : \iota$  be given. Let  $k10\_arytm\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_arytm\_3 : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k12\_arytm\_3 : \iota$  be given. Let  $k1\_arytm\_3 : \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k5\_arytm\_3) \Rightarrow (\neg(X0 \neq k11\_arytm\_3) \wedge \\ (\forall X1.(m1\_subset\_1 X1 k5\_arytm\_3) \Rightarrow (k10\_arytm\_3 X0 X1 \neq np\_1))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k5\_arytm\_3) \Rightarrow (k10\_arytm\_3 X0 k12\_arytm\_3 = X0) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k5\_arytm\_3) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 k5\_arytm\_3) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k5\_arytm\_3) \Rightarrow (k10\_arytm\_3 \\ (k10\_arytm\_3 X0 X1) X2 = k10\_arytm\_3 X0 (k10\_arytm\_3 X1 X2)))) \end{aligned} \quad (3)$$

Assume the following.

$$k12\_arytm\_3 = k1\_arytm\_3 \quad (4)$$

Assume the following.

$$k1\_arytm\_3 = np\_1 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k5\_arytm\_3) \wedge (m1\_subset\_1 \\ X1 k5\_arytm\_3)) \Rightarrow (k10\_arytm\_3 X0 X1 = k10\_arytm\_3 X1 X0) \quad (6)$$

## Theorem 1

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k5\_arytm\_3) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 k5\_arytm\_3) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k5\_arytm\_3) \Rightarrow ((k10\_arytm\_3 \\ X0 X1 = k10\_arytm\_3 X0 X2) \Rightarrow ((X0 = k11\_arytm\_3) \vee (X1 = X2)))))) \end{aligned}$$