

## l54\_arytm\_2

(TMU12dBpR9mDuVJUga6zBGfwWLN8Rdwkgua)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_arytm\_2 : \iota$  be given. Let  $k7\_arytm\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_arytm\_3 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_arytm\_3 : \iota$  be given. Let  $k1\_arytm\_2 : \iota$  be given. Let  $k5\_arytm\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_arytm\_2 : \iota \Rightarrow \iota$  be given. Let  $k4\_arytm\_2 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k2\_arytm\_2) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 k2\_arytm\_2) \Rightarrow ((k7\_arytm\_2 X0 X1 = k11\_arytm\_3) \Rightarrow (X0 = k11\_arytm\_3))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\ & X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 (k1\_zfmisc\_1 k5\_arytm\_3) k1\_arytm\_2) \Rightarrow \\ & (\forall X1.(m2\_subset\_1 X1 (k1\_zfmisc\_1 k5\_arytm\_3) k1\_arytm\_2) \Rightarrow \\ & ((k5\_arytm\_2 X0 X1 = X0) \Rightarrow ((X0 = k11\_arytm\_3) \vee (X1 = k11\_arytm\_3)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 (k1\_zfmisc\_1 k5\_arytm\_3) k1\_arytm\_2) \Rightarrow \\ & (k3\_arytm\_2 (k4\_arytm\_2 X0) = X0) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k2\_arytm\_2) \Rightarrow ((k3\_arytm\_2 X0 = k11\_arytm\_3) \Leftrightarrow \\ & (X0 = k11\_arytm\_3)) \end{aligned} \quad (5)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_arytm\_2 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k1\_arytm\_2)\wedge(m1\_subset\_1 X1 k1\_arytm\_2))\Rightarrow(m2\_subset\_1 (k5\_arytm\_2 X0 X1) (k1\_zfmisc\_1 k5\_arytm\_3) k1\_arytm\_2) \quad (7)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k2\_arytm\_2)\Rightarrow(m2\_subset\_1 (k3\_arytm\_2 X0) (k1\_zfmisc\_1 k5\_arytm\_3) k1\_arytm\_2) \quad (8)$$

Assume the following.

$$m1\_subset\_1 k1\_arytm\_2 (k1\_zfmisc\_1 (k1\_zfmisc\_1 k5\_arytm\_3)) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k2\_arytm\_2)\Rightarrow(\forall X1.(m1\_subset\_1 X1 k2\_arytm\_2)\Rightarrow(((X1 = k11\_arytm\_3)\Rightarrow(k7\_arytm\_2 X0 X1 = X0))\wedge \\ ((X0 = k11\_arytm\_3)\Rightarrow(k7\_arytm\_2 X0 X1 = X1))\wedge(\neg(X1\neq k11\_arytm\_3)\wedge \\ ((X0\neq k11\_arytm\_3)\wedge(k7\_arytm\_2 X0 X1\neq k4\_arytm\_2 (k5\_arytm\_2 \\ (k3\_arytm\_2 X0) (k3\_arytm\_2 X1)))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k2\_arytm\_2)\wedge(m1\_subset\_1 X1 k2\_arytm\_2))\Rightarrow(k7\_arytm\_2 X0 X1 = k7\_arytm\_2 X1 X0) \quad (11)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\Rightarrow(v1\_xboole\_0 X1)) \quad (12)$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1 X0 k2\_arytm\_2)\Rightarrow(\forall X1.(m1\_subset\_1 X1 k2\_arytm\_2)\Rightarrow((k7\_arytm\_2 X0 X1 = X0)\Rightarrow(X1 = k11\_arytm\_3)))$$