l20_arytm_2 (TMS6p5ghjs3LAoqiWntatNdANDY3QwBGtFc)

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Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k5\_arytm\_3 : \iota$ be given. Let $k1\_arytm\_2 : \iota$ be given. Let $k4\_arytm\_2 : \iota \Rightarrow \iota$ be given. Let $k11\_arytm\_3 : \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3\_arytm\_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $k2\_arytm\_2 : \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\neg(X0 \in X1) \wedge (v1\_xboole\_0\ X1) \tag{1}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k5\_arytm\_3) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ k5\_arytm\_3) \Rightarrow ((\neg r3\_arytm\_3\ X1\ X0) \Leftrightarrow ((r3\_arytm\_3\ X0\ X1) \wedge (X0 \neq X1)))) \tag{2}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k5\_arytm\_3) \Rightarrow (r3\_arytm\_3\ k11\_arytm\_3\ X0) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)) \Rightarrow (\neg(X1 \neq k1\_xboole\_0) \wedge (\forall X2.(m1\_subset\_1\ X2\ X0) \Rightarrow (\neg X2 \in X1))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2))) \Rightarrow (m1\_subset\_1\ X0\ X2) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ X0\ X1) \Leftrightarrow (m1\_subset\_1\ X2\ X1)) \tag{6}$$

Assume the following.

$$k11\_arytm\_3 = k1\_xboole\_0 \tag{7}$$

Assume the following.

$$v1\_xboole\_0\ k1\_xboole\_0 \tag{8}$$

Assume the following.

$$\neg v1\_xboole\_0\ k1\_arytm\_2 \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ X0\ X1)\Rightarrow(m1\_subset\_1\ X2\ X0)) \tag{10}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_arytm\_2)\Rightarrow(m1\_subset\_1\ (k4\_arytm\_2\ X0)\ k2\_arytm\_2) \tag{11}$$

Assume the following.

$$m1\_subset\_1\ k1\_arytm\_2\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ k5\_arytm\_3)) \tag{12}$$

Assume the following.

$$m1\_subset\_1\ k11\_arytm\_3\ k5\_arytm\_3 \tag{13}$$

Assume the following.

$$\forall X0.(m2\_subset\_1\ X0\ (k1\_zfmisc\_1\ k5\_arytm\_3)\ k1\_arytm\_2)\Rightarrow (\forall X1.(m1\_subset\_1\ X1\ k2\_arytm\_2)\Rightarrow(((\exists X2.(m1\_subset\_1\ X2\ k5\_arytm\_3)\wedge(\forall X3.(m1\_subset\_1\ X3\ k5\_arytm\_3)\Rightarrow((X3\in X0)\Leftrightarrow(\neg r3\_arytm\_3\ X2\ X3))))\Rightarrow((X1 = k4\_arytm\_2\ X0)\Leftrightarrow(\exists X2.(m1\_subset\_1\ X2\ k5\_arytm\_3)\wedge((X1 = X2)\wedge(\forall X3.(m1\_subset\_1\ X3\ k5\_arytm\_3)\Rightarrow((X3\in X0)\Leftrightarrow(\neg r3\_arytm\_3\ X2\ X3)))))))\wedge((\forall X2.(m1\_subset\_1\ X2\ k5\_arytm\_3)\Rightarrow(\neg\forall X3.(m1\_subset\_1\ X3\ k5\_arytm\_3)\Rightarrow((X3\in X0)\Leftrightarrow(\neg r3\_arytm\_3\ X2\ X3))))\Rightarrow((X1 = k4\_arytm\_2\ X0)\Leftrightarrow(X1 = X0))))) \tag{14}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \tag{15}$$

Theorem 1

$$\forall X0.(m2\_subset\_1\ X0\ (k1\_zfmisc\_1\ k5\_arytm\_3)\ k1\_arytm\_2)\Rightarrow((k4\_arytm\_2\ X0 = k11\_arytm\_3)\Leftrightarrow(X0 = k11\_arytm\_3))$$