t68_arytm_3 (TM-SJbRQJHq81hGAPiAcCbVX8qPJ3pGfiMDt)

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Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_arytm\_3 : \iota$ be given. Let $r3\_arytm\_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k5\_arytm\_3) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ k5\_arytm\_3) \Rightarrow (((r3\_arytm\_3\ X0\ X1) \wedge (r3\_arytm\_3\ X1\ X0)) \Rightarrow (X0 = X1))) \tag{1}$$

Assume the following.

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

Theorem 1

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