t83_arytm_3 (TMXRbJM42BH6yKC7KbuqsfXnbccBiGiiv1y)

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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 $r3\_arytm\_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k11\_arytm\_3 : \iota$ be given. Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k5\_arytm\_3) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ k5\_arytm\_3) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ k5\_arytm\_3) \Rightarrow ((r3\_arytm\_3\ X0\ X1) \Rightarrow (r3\_arytm\_3\ (k10\_arytm\_3\ X0\ X2)\ (k10\_arytm\_3\ X1\ X2))))) \tag{1}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k5\_arytm\_3) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ k5\_arytm\_3) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ k5\_arytm\_3) \Rightarrow ((r3\_arytm\_3\ (k10\_arytm\_3\ X1\ X0)\ (k10\_arytm\_3\ X2\ X0)) \Rightarrow ((X0 = k11\_arytm\_3) \vee (r3\_arytm\_3\ X1\ X2))))) \tag{2}$$

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.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k5\_arytm\_3) \wedge (m1\_subset\_1\ X1\ k5\_arytm\_3)) \Rightarrow ((r3\_arytm\_3\ X0\ X1) \vee (r3\_arytm\_3\ X1\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k5\_arytm\_3) \wedge (m1\_subset\_1\ X1\ k5\_arytm\_3)) \Rightarrow (k10\_arytm\_3\ X0\ X1 = k10\_arytm\_3\ X1\ X0) \tag{5}$$

Theorem 1

$$\forall X0.(m1\_subset\_1\ X0\ k5\_arytm\_3) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ k5\_arytm\_3) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ k5\_arytm\_3) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ k5\_arytm\_3) \Rightarrow (\neg(k10\_arytm\_3\ X0\ X1 = k10\_arytm\_3\ X2\ X3) \wedge ((\neg r3\_arytm\_3\ X0\ X2) \wedge (\neg r3\_arytm\_3\ X1\ X3))))))$$