l18_arytm_1 (TM-PhL71SKm2aqwZf1bFWnrBUn6geA2VQD8T)

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Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_arytm\_2 : \iota$ be given. Let $k1\_arytm\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_arytm\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_arytm\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k11\_arytm\_3 : \iota$ be given. Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k2\_arytm\_2) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ k2\_arytm\_2) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ k2\_arytm\_2) \Rightarrow ((X0 = k7\_arytm\_2\ X1\ X2) \Rightarrow (r1\_arytm\_2\ X2\ X0)))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k2\_arytm\_2) \wedge (m1\_subset\_1\ X1\ k2\_arytm\_2)) \Rightarrow (m1\_subset\_1\ (k7\_arytm\_2\ X0\ X1)\ k2\_arytm\_2) \tag{2}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k2\_arytm\_2) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ k2\_arytm\_2) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ k2\_arytm\_2) \Rightarrow (((r1\_arytm\_2\ X1\ X0) \Rightarrow ((X2 = k1\_arytm\_1\ X0\ X1) \Leftrightarrow (k7\_arytm\_2\ X2\ X1 = X0))) \wedge ((\neg r1\_arytm\_2\ X1\ X0) \Rightarrow ((X2 = k1\_arytm\_1\ X0\ X1) \Leftrightarrow (X2 = k11\_arytm\_3)))))) \tag{3}$$

Theorem 1

$$\forall X0.(m1\_subset\_1\ X0\ k2\_arytm\_2) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ k2\_arytm\_2) \Rightarrow (k1\_arytm\_1\ (k7\_arytm\_2\ X0\ X1)\ X1 = X0))$$