

t11\_arytm\_2 (TMVxSS-  
BNG4S2QzjoZD2vMRXuDbW86HVaNy2)

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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. Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k2\_arytm\_2) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 k2\_arytm\_2) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k2\_arytm\_2) \Rightarrow (k7\_arytm\_2 \\ & X0 (k7\_arytm\_2 X1 X2) = k7\_arytm\_2 (k7\_arytm\_2 X0 X1) X2))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k2\_arytm\_2) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 k2\_arytm\_2) \Rightarrow (\neg \forall X2.(m1\_subset\_1 X2 k2\_arytm\_2) \Rightarrow ((k7\_arytm\_2 \\ & X0 X2 \neq X1) \wedge (k7\_arytm\_2 X1 X2 \neq X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k2\_arytm\_2) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 k2\_arytm\_2) \Rightarrow ((k7\_arytm\_2 X0 X1 = X0) \Rightarrow (X1 = k11\_arytm\_3))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((m1\_subset\_1 X0 k2\_arytm\_2) \wedge (m1\_subset\_1 \\ & X1 k2\_arytm\_2)) \Rightarrow (m1\_subset\_1 (k7\_arytm\_2 X0 X1) k2\_arytm\_2) \end{aligned} \quad (4)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k2\_arytm\_2) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 k2\_arytm\_2) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k2\_arytm\_2) \Rightarrow ((k7\_arytm\_2 \\ & X0 X1 = k7\_arytm\_2 X0 X2) \Rightarrow (X1 = X2)))) \end{aligned}$$