

t18\_intpro\_1 (TMG-  
WZxKA6JrUy3FDuo9Jz2JBr9wvbqsbHiR)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_intpro\_1 : \iota$  be given. Let  $k8\_intpro\_1 : \iota$  be given. Let  $k3\_intpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v8\_intpro\_1 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_intpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_intpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_intpro\_1 : \iota$  be given. Assume the following.

$$v8\_intpro\_1 \ k8\_intpro\_1 \tag{1}$$

Assume the following.

$$m1\_subset\_1 \ k8\_intpro\_1 \ (k1\_zfmisc\_1 \ k1\_intpro\_1) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 \ X0 \ k1\_intpro\_1) \wedge (m1\_subset\_1 \ X1 \ k1\_intpro\_1)) \Rightarrow (m1\_subset\_1 \ (k3\_intpro\_1 \ X0 \ X1) \ k1\_intpro\_1) \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0. (m1\_subset\_1 \ X0 \ (k1\_zfmisc\_1 \ k1\_intpro\_1)) \Rightarrow & ((v8\_intpro\_1 \ X0) \Leftrightarrow (\forall X1. (m1\_subset\_1 \ X1 \ k1\_intpro\_1) \Rightarrow (\forall X2. (m1\_subset\_1 \\ X2 \ k1\_intpro\_1) \Rightarrow (\forall X3. (m1\_subset\_1 \ X3 \ k1\_intpro\_1) \Rightarrow & (( \\ k3\_intpro\_1 \ X1 \ (k3\_intpro\_1 \ X2 \ X1) \in X0) \wedge ((k3\_intpro\_1 \ (k3\_intpro\_1 \\ X1 \ (k3\_intpro\_1 \ X2 \ X3)) \ (k3\_intpro\_1 \ (k3\_intpro\_1 \ X1 \ X2) \ (k3\_intpro\_1 \\ X1 \ X3)) \in X0) \wedge ((k3\_intpro\_1 \ (k4\_intpro\_1 \ X1 \ X2) \ X1 \in X0) \wedge ((k3\_intpro\_1 \\ (k4\_intpro\_1 \ X1 \ X2) \ X2 \in X0) \wedge ((k3\_intpro\_1 \ X1 \ (k3\_intpro\_1 \ X2 \ (k4\_intpro\_1 \\ X1 \ X2)) \in X0) \wedge ((k3\_intpro\_1 \ X1 \ (k5\_intpro\_1 \ X1 \ X2) \in X0) \wedge ((k3\_intpro\_1 \\ X2 \ (k5\_intpro\_1 \ X1 \ X2) \in X0) \wedge ((k3\_intpro\_1 \ (k3\_intpro\_1 \ X1 \ X3) \ ( \\ k3\_intpro\_1 \ (k3\_intpro\_1 \ X2 \ X3)) \ (k3\_intpro\_1 \ (k5\_intpro\_1 \ X1 \ X2) \\ X3)) \in X0) \wedge ((k3\_intpro\_1 \ k2\_intpro\_1 \ X1 \in X0) \wedge (((X1 \in X0) \wedge (k3\_intpro\_1 \\ X1 \ X2 \in X0)) \Rightarrow (X2 \in X0)))))))))) \tag{4} \end{aligned}$$

**Theorem 1**

$$\forall X0. (m1\_subset\_1 \ X0 \ k1\_intpro\_1) \Rightarrow (\forall X1. (m1\_subset\_1 \ X1 \ k1\_intpro\_1) \Rightarrow ((X0 \in k8\_intpro\_1) \Rightarrow (k3\_intpro\_1 \ X1 \ X0 \in k8\_intpro\_1)))$$