

t7\_instalg1 (TMGUY-  
faN7WLieUGmMd3HxH1zJ14mA9Sc7pR)

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Let  $l1\_msualg\_1 : \iota \Rightarrow o$  be given. Let  $v1\_instalg1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $u2\_msualg\_1 : \iota \Rightarrow \iota$  be given. Let  $u4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$(k9\_xtuple\_0 \ k1\_xboole\_0 = k1\_xboole\_0) \wedge (k10\_xtuple\_0 \ k1\_xboole\_0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 \ X1) \wedge (v4\_relat\_1 \ X1 \ X0)) \Rightarrow (k1\_relset\_1 \ X0 \ X1 = k9\_xtuple\_0 \ X1) \quad (2)$$

Assume the following.

$$\forall X0. (l1\_msualg\_1 \ X0) \Rightarrow ((v1\_funct\_1 \ (u2\_msualg\_1 \ X0)) \wedge ((v1\_funct\_2 \ (u2\_msualg\_1 \ X0) \ (u4\_struct\_0 \ X0) \ (u1\_struct\_0 \ X0)) \wedge (m1\_subset\_1 \ (u2\_msualg\_1 \ X0) \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ (u4\_struct\_0 \ X0) \ (u1\_struct\_0 \ X0)))))) \quad (3)$$

Assume the following.

$$k1\_xboole\_0 = the \ (\lambda X0 : \iota. v1\_xboole\_0 \ X0) \quad (4)$$

Assume the following.

$$\forall X0. (l1\_msualg\_1 \ X0) \Rightarrow ((v1\_instalg1 \ X0) \Leftrightarrow ((u1\_struct\_0 \ X0 = k1\_xboole\_0) \Rightarrow (u4\_struct\_0 \ X0 = k1\_xboole\_0))) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))) \Rightarrow (((X1 \neq k1\_xboole\_0) \Rightarrow ((v1\_funct\_2 X2 X0 \\ & X1) \Leftrightarrow (X0 = k1\_relset\_1 X0 X2))) \wedge ((X1 = k1\_xboole\_0) \Rightarrow ((v1\_funct\_2 \\ & X2 X0 X1) \Leftrightarrow (X2 = k1\_xboole\_0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v4\_relat\_1 X2 X0) \wedge (v5\_relat\_1 X2 X1)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \end{aligned} \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(l1\_msualg\_1 X0) \Rightarrow ((v1\_instalg1 X0) \Leftrightarrow (k9\_xtuple\_0 \\ & (u2\_msualg\_1 X0) = u4\_struct\_0 X0)) \end{aligned}$$