

t5\_integra5  
(TMaqXxFDj2C6pS4tn9BeEBAs5BUwjGmv3N9)

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Let  $v1\_funct\_1 : \iota \Rightarrow o$  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  $k1\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $k1\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_membered : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow (k9\_xtuple\_0 (k5\_relat\_1 \\ X1 X0) = k3\_xboole\_0 (k9\_xtuple\_0 X1) X0) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\ X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (\forall X3. ((v1\_funct\_1 \\ X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (((k1\_relset\_1 \\ X0 X2 = k1\_relset\_1 X0 X3) \wedge (\forall X4. (m1\_subset\_1 X4 X0) \Rightarrow ((X4 \in \\ k1\_relset\_1 X0 X2) \Rightarrow (k1\_funct\_1 X2 X4 = k1\_funct\_1 X3 X4)))) \Rightarrow (X2 = \\ X3))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 \\ X2)) \Rightarrow ((X0 \in k9\_xtuple\_0 (k5\_relat\_1 X2 X1)) \Rightarrow (k1\_funct\_1 (k5\_relat\_1 \\ X2 X1) X0 = k1\_funct\_1 X2 X0)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. k3\_xboole\_0 (k3\_xboole\_0 X0 \\ X1) X2 = k3\_xboole\_0 X0 (k3\_xboole\_0 X1 X2) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\Rightarrow((r2\_reset\_1 X0 X1 X2 X3)\Leftrightarrow(X2 = X3)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3\_membered X1)\wedge((v3\_membered X2)\wedge(((v1\_funct\_1 X3)\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\wedge((v1\_funct\_1 X4)\wedge(m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X2)))))))\Rightarrow(k3\_valued\_1 X0 X1 X2 X3 X4 = k1\_valued\_1 X3 X4) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow(k1\_reset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_funct\_1 X0)\wedge(m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers))))\wedge((\neg v1\_xboole\_0 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 k1\_numbers))))\Rightarrow(k1\_integra5 X0 X1 = k5\_relat\_1 X0 X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0 X0 X0 = X0 \quad (9)$$

Assume the following.

$$v3\_membered k1\_numbers \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3\_membered X1)\wedge((v3\_membered X2)\wedge(((v1\_funct\_1 X3)\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\wedge((v1\_funct\_1 X4)\wedge(m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X2)))))))\Rightarrow((v1\_funct\_1 (k3\_valued\_1 X0 X1 X2 X3 X4))\wedge(m1\_subset\_1 (k3\_valued\_1 X0 X1 X2 X3 X4) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_funct\_1 X0)\wedge(m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers))))\wedge((\neg v1\_xboole\_0 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 k1\_numbers))))\Rightarrow((v1\_funct\_1 (k1\_integra5 X0 X1))\wedge(m1\_subset\_1 (k1\_integra5 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 k1\_numbers)))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0))) \Rightarrow \\ (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_valued\_0 \\ X1)))) \Rightarrow (\forall X2.((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow ((X2 = k1\_valued\_1 \\ X0 X1) \Leftrightarrow ((k9\_xtuple\_0 X2 = k3\_xboole\_0 (k9\_xtuple\_0 X0) (k9\_xtuple\_0 \\ X1)) \wedge (\forall X3.(X3 \in k9\_xtuple\_0 X2) \Rightarrow (k1\_funct\_1 X2 X3 = k2\_xcmplx\_0 \\ (k1\_funct\_1 X0 X3) (k1\_funct\_1 X1 X3)))))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0 X0 X1 = k3\_xboole\_0 X1 X0 \quad (15)$$

Assume the following.

$$\forall X0.(v3\_membered X0) \Rightarrow (v1\_membered X0) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v4\_relat\_1 X2 X0) \wedge (v5\_relat\_1 X2 X1)) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_membered X1) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_valued\_0 X2)) \quad (19)$$

### Theorem 1

$$\begin{aligned} \forall X0.((v1\_funct\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ k1\_numbers k1\_numbers)))) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge (m1\_subset\_1 \\ X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))) \Rightarrow (\forall X2. \\ ((\neg v1\_xboole\_0 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 k1\_numbers))) \Rightarrow \\ (r2\_relset\_1 X2 k1\_numbers (k1\_integra5 (k3\_valued\_1 k1\_numbers \\ k1\_numbers k1\_numbers X0 X1) X2) (k3\_valued\_1 X2 k1\_numbers k1\_numbers \\ (k1\_integra5 X0 X2) (k1\_integra5 X1 X2)))) \end{aligned}$$