

## t64\_valued\_2

(TMNs2tiaCSRDX6sP95LaEKvMwzQAAaPmMSN)

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Let  $v1\_valued\_2 : \iota \Rightarrow o$  be given. 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  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_valued\_0 : \iota \Rightarrow o$  be given. Let  $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_valued\_2 : \iota \Rightarrow \iota$  be given. Let  $k1\_valued\_2 : \iota \Rightarrow \iota$  be given. Let  $k16\_valued\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k58\_valued\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k52\_valued\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k30\_valued\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0))) \Rightarrow \\ & \quad ((k9\_xtuple\_0 (k30\_valued\_1 X0) = k9\_xtuple\_0 X0) \wedge (\forall X1. \\ & \quad k1\_funct\_1 (k30\_valued\_1 X0) X1 = k4\_xcmplx\_0 (k1\_funct\_1 X0 X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (v1\_valued\_2 X1) \Rightarrow (\forall X2. ((v1\_funct\_1 \\ & \quad X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (\forall X3. \\ & \quad ((v1\_relat\_1 X3) \wedge ((v1\_funct\_1 X3) \wedge (v1\_valued\_0 X3))) \Rightarrow (k58\_valued\_2 \\ & \quad X0 X1 X2 (k30\_valued\_1 X3) = k52\_valued\_2 X0 X1 X2 X3))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (v1\_valued\_2 X1) \Rightarrow (\forall X2. ((v1\_funct\_1 \\ & \quad X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (\forall X3. \\ & \quad ((v1\_relat\_1 X3) \wedge ((v1\_funct\_1 X3) \wedge (v1\_valued\_0 X3))) \Rightarrow (k16\_valued\_2 \\ & \quad (k3\_xboole\_0 X0 (k9\_xtuple\_0 X3)) (k2\_valued\_2 (k1\_valued\_2 X1)) \\ & \quad (k52\_valued\_2 X0 X1 X2 X3) = k52\_valued\_2 X0 (k2\_valued\_2 (k1\_valued\_2 \\ & \quad X1)) (k16\_valued\_2 X0 X1 X2) (k30\_valued\_1 X3)))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\Rightarrow((r2\_relset\_1 X0 X1 X2 X3)\Leftrightarrow(X2 = X3)) \quad (4)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_valued\_0 X0)))\Rightarrow (k30\_valued\_1 (k30\_valued\_1 X0) = X0) \quad (5)$$

Assume the following.

$$\forall X0.v1\_valued\_2 (k2\_valued\_2 X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_valued\_2 X1)\wedge(((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\wedge((v1\_relat\_1 X3)\wedge((v1\_funct\_1 X3)\wedge(v1\_valued\_0 X3))))))\Rightarrow ((v1\_funct\_1 (k58\_valued\_2 X0 X1 X2 X3))\wedge(m1\_subset\_1 (k58\_valued\_2 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k3\_xboole\_0 X0 (k9\_xtuple\_0 X3)) (k2\_valued\_2 (k1\_valued\_2 X1)))))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_valued\_2 X1)\wedge(((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\wedge((v1\_relat\_1 X3)\wedge((v1\_funct\_1 X3)\wedge(v1\_valued\_0 X3))))))\Rightarrow ((v1\_funct\_1 (k52\_valued\_2 X0 X1 X2 X3))\wedge(m1\_subset\_1 (k52\_valued\_2 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k3\_xboole\_0 X0 (k9\_xtuple\_0 X3)) (k2\_valued\_2 (k1\_valued\_2 X1)))))) \quad (8)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_valued\_0 X0)))\Rightarrow ((v1\_relat\_1 (k30\_valued\_1 X0))\wedge((v1\_funct\_1 (k30\_valued\_1 X0))\wedge(v1\_valued\_0 (k30\_valued\_1 X0)))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_valued\_2 X1)\wedge((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))))\Rightarrow((v1\_funct\_1 (k16\_valued\_2 X0 X1 X2))\wedge(m1\_subset\_1 (k16\_valued\_2 X0 X1 X2) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 (k2\_valued\_2 (k1\_valued\_2 X1)))))) \quad (10)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. \forall X1. (v1\_valued\_2 X1) \Rightarrow (\forall X2. ((v1\_funct\_1 \\ & X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (\forall X3. \\ & ((v1\_relat\_1 X3) \wedge ((v1\_funct\_1 X3) \wedge (v1\_valued\_0 X3))) \Rightarrow (r2\_relset\_1 \\ & (k3\_xboole\_0 X0 (k9\_xtuple\_0 X3)) (k2\_valued\_2 (k1\_valued\_2 ( \\ & k2\_valued\_2 (k1\_valued\_2 X1)))) (k16\_valued\_2 (k3\_xboole\_0 X0 \\ & (k9\_xtuple\_0 X3)) (k2\_valued\_2 (k1\_valued\_2 X1)) (k58\_valued\_2 \\ & X0 X1 X2 X3)) (k52\_valued\_2 X0 (k2\_valued\_2 (k1\_valued\_2 X1)) (k16\_valued\_2 \\ & X0 X1 X2) X3)))) \end{aligned}$$