

## t71\_valued\_2

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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  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k68\_valued\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k62\_valued\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k35\_valued\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $k24\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (k8\_subset\_1 X0 X1 X2 = k3\_xboole\_0 X1 X2) \quad (1)$$

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.

$$\forall X0. \forall X1. \forall X2. ((v1\_valued\_2 X0) \wedge (((v1\_relat\_1 X1) \wedge ((v5\_relat\_1 X1 X0) \wedge (v1\_funct\_1 X1))) \wedge ((v1\_relat\_1 X2) \wedge ((v1\_funct\_1 X2) \wedge (v1\_valued\_0 X2))))) \Rightarrow ((v1\_relat\_1 (k62\_valued\_2 X0 X1 X2)) \wedge (v1\_funct\_1 (k62\_valued\_2 X0 X1 X2))) \quad (3)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0))) \Rightarrow ((v1\_relat\_1 (k35\_valued\_1 X0)) \wedge ((v1\_funct\_1 (k35\_valued\_1 X0)) \wedge (v1\_valued\_0 (k35\_valued\_1 X0)))) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (m1\_subset\_1 (k1\_relset\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0))) \Rightarrow \\ (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_valued\_0 \\ X1))) \Rightarrow ((X1 = k35\_valued\_1 X0) \Leftrightarrow ((k9\_xtuple\_0 X1 = k9\_xtuple\_0 X0) \wedge \\ (\forall X2.(X2 \in k9\_xtuple\_0 X1) \Rightarrow (k1\_funct\_1 X1 X2 = k5\_xcmplx\_0 \\ (k1\_funct\_1 X0 X2)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_valued\_2 X0) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge (( \\ v5\_relat\_1 X1 X0) \wedge (v1\_funct\_1 X1))) \Rightarrow (\forall X2.((v1\_relat\_1 \\ X2) \wedge ((v1\_funct\_1 X2) \wedge (v1\_valued\_0 X2))) \Rightarrow (k68\_valued\_2 X0 X1 \\ X2 = k62\_valued\_2 X0 X1 (k35\_valued\_1 X2)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_valued\_2 X0) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge (( \\ v5\_relat\_1 X1 X0) \wedge (v1\_funct\_1 X1))) \Rightarrow (\forall X2.((v1\_relat\_1 \\ X2) \wedge ((v1\_funct\_1 X2) \wedge (v1\_valued\_0 X2))) \Rightarrow (\forall X3.((v1\_relat\_1 \\ X3) \wedge (v1\_funct\_1 X3)) \Rightarrow ((X3 = k62\_valued\_2 X0 X1 X2) \Leftrightarrow ((k9\_xtuple\_0 \\ X3 = k3\_xboole\_0 (k9\_xtuple\_0 X1) (k9\_xtuple\_0 X2)) \wedge (\forall X4. \\ (X4 \in k9\_xtuple\_0 X3) \Rightarrow (k1\_funct\_1 X3 X4 = k24\_valued\_1 (k1\_funct\_1 \\ X1 X4) (k1\_funct\_1 X2 X4)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v4\_relat\_1 X2 X0) \wedge (v5\_relat\_1 X2 X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \quad (10)$$

**Theorem 1**

$$\begin{aligned} \forall X0.\forall X1.(v1\_valued\_2 X1) \Rightarrow (\forall X2.((v1\_funct\_1 \\ X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (\forall X3. \\ ((v1\_relat\_1 X3) \wedge ((v1\_funct\_1 X3) \wedge (v1\_valued\_0 X3))) \Rightarrow (k9\_xtuple\_0 \\ (k68\_valued\_2 X1 X2 X3) = k8\_subset\_1 X0 (k1\_relset\_1 X0 X2) (k9\_xtuple\_0 \\ X3)))) \end{aligned}$$