

## t23\_valued\_2

(TMF8CmkmfMNHYkbzZJtXuUKe2iiSbujYvxe)

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Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k24\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k30\_valued\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0))) \Rightarrow \\ & (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow (\forall X2.(v1\_xcmplx\_0 X2) \Rightarrow ( \\ & k24\_valued\_1 X0 (k3\_xcmplx\_0 X1 X2) = k24\_valued\_1 (k24\_valued\_1 \\ & X0 X2) X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow (\forall X2. \\ & ((v1\_relat\_1 X2) \wedge ((v1\_funct\_1 X2) \wedge (v1\_valued\_0 X2)))) \Rightarrow (k24\_valued\_1 \\ & (k24\_valued\_1 X2 X0) X1 = k24\_valued\_1 X2 (k3\_xcmplx\_0 X0 X1))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 \\ & X0))) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow ((v1\_relat\_1 (k24\_valued\_1 X0 X1)) \wedge \\ & ((v1\_funct\_1 (k24\_valued\_1 X0 X1)) \wedge (v1\_valued\_0 (k24\_valued\_1 \\ & X0 X1)))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (v1\_xcmplx\_0 (k4\_xcmplx\_0 X0)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_valued\_0 X0)))\wedge(v1\_xcmplx\_0 X1))\Rightarrow((v1\_relat\_1 (k24\_valued\_1 X0 X1))\wedge (v1\_funct\_1 (k24\_valued\_1 X0 X1))) \quad (6)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_valued\_0 X0)))\Rightarrow (k30\_valued\_1 X0 = k24\_valued\_1 X0 (k4\_xcmplx\_0 np\_1)) \quad (7)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xcmplx\_0 X0) \quad (8)$$

**Theorem 1**

$$\forall X0.(v1\_xcmplx\_0 X0)\Rightarrow(\forall X1.((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_valued\_0 X1)))\Rightarrow(k24\_valued\_1 (k30\_valued\_1 X1) X0 = k30\_valued\_1 (k24\_valued\_1 X1 X0)))$$