

## t67\_valued\_2

(TMWm4P1UL5XQTfY45BmSzLdfB26KetasH6b)

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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  $k58\_valued\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $k1\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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. Let  $k52\_valued\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k45\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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.

$$\begin{aligned} & \forall X0. \forall X1. (v1\_valued\_2 X1) \Rightarrow (\forall X2. ((v1\_funct\_1 \\ & \quad X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (\forall X3. \\ & \quad ((v1\_relat\_1 X3) \wedge ((v1\_funct\_1 X3) \wedge (v1\_valued\_0 X3))) \Rightarrow (\forall X4. \\ & \quad ((v1\_relat\_1 X4) \wedge ((v1\_funct\_1 X4) \wedge (v1\_valued\_0 X4))) \Rightarrow (k58\_valued\_2 \\ & \quad (k3\_xboole\_0 X0 (k9\_xtuple\_0 X3) (k2\_valued\_2 (k1\_valued\_2 X1)) \\ & \quad (k52\_valued\_2 X0 X1 X2 X3) X4 = k52\_valued\_2 X0 X1 X2 (k45\_valued\_1 \\ & \quad X3 X4)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (v1\_valued\_2 X1) \Rightarrow (\forall X2. ((v1\_funct\_1 \\ & \quad X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (\forall X3. \\ & \quad ((v1\_relat\_1 X3) \wedge ((v1\_funct\_1 X3) \wedge (v1\_valued\_0 X3))) \Rightarrow (k58\_valued\_2 \\ & \quad X0 X1 X2 (k30\_valued\_1 X3) = k52\_valued\_2 X0 X1 X2 X3))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0))) \Rightarrow \\ & (\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_valued\_0 \\ & X1)))) \Rightarrow (k30\_valued\_1 (k1\_valued\_1 X0 X1) = k45\_valued\_1 (k30\_valued\_1 \\ & X0) X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0))) \Rightarrow \\ & (k30\_valued\_1 (k30\_valued\_1 X0) = X0) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 \\ & X0))) \wedge ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_valued\_0 X1)))) \Rightarrow \\ & ((v1\_relat\_1 (k45\_valued\_1 X0 X1)) \wedge ((v1\_funct\_1 (k45\_valued\_1 \\ & X0 X1)) \wedge (v1\_valued\_0 (k45\_valued\_1 X0 X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0))) \Rightarrow \\ & ((v1\_relat\_1 (k30\_valued\_1 X0)) \wedge ((v1\_funct\_1 (k30\_valued\_1 \\ & X0)) \wedge (v1\_valued\_0 (k30\_valued\_1 X0)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 \\ & X0))) \wedge ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_valued\_0 X1)))) \Rightarrow \\ & ((v1\_relat\_1 (k1\_valued\_1 X0 X1)) \wedge ((v1\_funct\_1 (k1\_valued\_1 \\ & X0 X1)) \wedge (v1\_valued\_0 (k1\_valued\_1 X0 X1)))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 \\ & X0))) \wedge ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_valued\_0 X1)))) \Rightarrow \\ & ((v1\_relat\_1 (k45\_valued\_1 X0 X1)) \wedge ((v1\_funct\_1 (k45\_valued\_1 \\ & X0 X1)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 \\ & X0))) \wedge ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_valued\_0 X1)))) \Rightarrow \\ & ((v1\_relat\_1 (k1\_valued\_1 X0 X1)) \wedge ((v1\_funct\_1 (k1\_valued\_1 X0 \\ & X1)))) \end{aligned} \quad (10)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. \forall X1. (v1\_valued\_2 X1) \Rightarrow (\forall X2. ((v1\_funct\_1 \\ & X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (\forall X3. \\ & ((v1\_relat\_1 X3) \wedge ((v1\_funct\_1 X3) \wedge (v1\_valued\_0 X3)))) \Rightarrow (\forall X4. \\ & ((v1\_relat\_1 X4) \wedge ((v1\_funct\_1 X4) \wedge (v1\_valued\_0 X4)))) \Rightarrow (k58\_valued\_2 \\ & (k3\_xboole\_0 X0 (k9\_xtuple\_0 X3)) (k2\_valued\_2 (k1\_valued\_2 X1)) \\ & (k58\_valued\_2 X0 X1 X2 X3) X4 = k58\_valued\_2 X0 X1 X2 (k1\_valued\_1 \\ & X3 X4)))) \end{aligned}$$