t59_valued_2 (TMaMA8LQcjMUgqMNrCaseDkdnX5hSY9DiHG)

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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 $k52\_valued\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1\_xcmplx\_0 : \iota \Rightarrow o$ be given. Let $k7\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k51\_valued\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7\_valued\_2 : \iota \Rightarrow o$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.k3\_xboole\_0\ (k3\_xboole\_0\ X0\ X1)\ X2 = k3\_xboole\_0\ X0\ (k3\_xboole\_0\ X1\ X2) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0) \Rightarrow (\forall X1.(v1\_xcmplx\_0\ X1) \Rightarrow (\forall X2.((v1\_relat\_1\ X2) \wedge ((v1\_funct\_1\ X2) \wedge (v1\_valued\_0\ X2))) \Rightarrow (k7\_valued\_1\ (k7\_valued\_1\ X2\ X0)\ X1 = k7\_valued\_1\ X2\ (k2\_xcmplx\_0\ X0\ X1)))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_valued\_2\ X1) \wedge (((v1\_funct\_1\ X2) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))) \wedge ((v1\_relat\_1\ X3) \wedge ((v1\_funct\_1\ X3) \wedge (v1\_valued\_0\ X3))))) \Rightarrow (k52\_valued\_2\ X0\ X1\ X2\ X3 = k51\_valued\_2\ X1\ X2\ X3) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v1\_valued\_0\ X0))) \Rightarrow (v1\_xcmplx\_0\ (k1\_funct\_1\ X0\ X1)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v7\_valued\_2\ X0))) \Rightarrow (v1\_valued\_0\ (k1\_funct\_1\ X0\ X1)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v7\_valued\_2\ X0)))\Rightarrow((v1\_relat\_1\ (k1\_funct\_1\ X0\ X1))\wedge(v1\_funct\_1\ (k1\_funct\_1\ X0\ X1))) \tag{6}$$

Assume the following.

$$\forall X0.v1\_valued\_2\ (k2\_valued\_2\ X0) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\wedge((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_valued\_0\ X1))))\Rightarrow((v1\_relat\_1\ (k1\_valued\_1\ X0\ X1))\wedge((v1\_funct\_1\ (k1\_valued\_1\ X0\ X1))\wedge(v1\_valued\_0\ (k1\_valued\_1\ X0\ X1)))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_valued\_2\ X1)\wedge(((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))\wedge((v1\_relat\_1\ X3)\wedge((v1\_funct\_1\ X3)\wedge(v1\_valued\_0\ X3)))))\Rightarrow((v1\_funct\_1\ (k52\_valued\_2\ X0\ X1\ X2\ X3))\wedge(m1\_subset\_1\ (k52\_valued\_2\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k3\_xboole\_0\ X0\ (k9\_xtuple\_0\ X3))\ (k2\_valued\_2\ (k1\_valued\_2\ X1))))))) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\wedge((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_valued\_0\ X1))))\Rightarrow((v1\_relat\_1\ (k1\_valued\_1\ X0\ X1))\wedge(v1\_funct\_1\ (k1\_valued\_1\ X0\ X1))) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3\_xboole\_0\ X0\ X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(X3 \in X1))) \tag{11}$$

Assume the following.

$$\forall X0.(v1\_valued\_2\ X0)\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge((v5\_relat\_1\ X1\ X0)\wedge(v1\_funct\_1\ X1)))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v1\_funct\_1\ X2)\wedge(v1\_valued\_0\ X2)))\Rightarrow(\forall X3.((v1\_relat\_1\ X3)\wedge(v1\_funct\_1\ X3))\Rightarrow((X3 = k51\_valued\_2\ X0\ X1\ X2)\Leftrightarrow((k9\_xtuple\_0\ X3 = k3\_xboole\_0\ (k9\_xtuple\_0\ X1)\ (k9\_xtuple\_0\ X2))\wedge(\forall X4.(X4 \in k9\_xtuple\_0\ X3)\Rightarrow(k1\_funct\_1\ X3\ X4 = k7\_valued\_1\ (k1\_funct\_1\ X1\ X4)\ (k1\_funct\_1\ X2\ X4)))))))) \tag{12}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\Rightarrow (\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_valued\_0\ X1)))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\Rightarrow((X2 = k1\_valued\_1\ X0\ X1)\Leftrightarrow((k9\_xtuple\_0\ X2 = k3\_xboole\_0\ (k9\_xtuple\_0\ X0)\ (k9\_xtuple\_0\ X1))\wedge(\forall X3.(X3 \in k9\_xtuple\_0\ X2)\Rightarrow(k1\_funct\_1\ X2\ X3 = k2\_xcmplx\_0\ (k1\_funct\_1\ X0\ X3)\ (k1\_funct\_1\ X1\ X3)))))))) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0\ X0\ X1 = k3\_xboole\_0\ X1\ X0 \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\wedge((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_valued\_0\ X1))))\Rightarrow (k1\_valued\_1\ X0\ X1 = k1\_valued\_1\ X1\ X0) \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow((v4\_relat\_1\ X2\ X0)\wedge(v5\_relat\_1\ X2\ X1)) \tag{16}$$

Assume the following.

$$\forall X0.(v1\_valued\_2\ X0)\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge((v5\_relat\_1\ X1\ X0)\wedge(v1\_funct\_1\ X1)))\Rightarrow((v1\_relat\_1\ X1)\wedge((v5\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge(v7\_valued\_2\ X1))))) \tag{17}$$

Assume the following.

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

Theorem 1

$$\forall X0.\forall X1.(v1\_valued\_2\ X1)\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))\Rightarrow(\forall X3.((v1\_relat\_1\ X3)\wedge((v1\_funct\_1\ X3)\wedge(v1\_valued\_0\ X3)))\Rightarrow(\forall X4.((v1\_relat\_1\ X4)\wedge((v1\_funct\_1\ X4)\wedge(v1\_valued\_0\ X4)))\Rightarrow(k52\_valued\_2\ (k3\_xboole\_0\ X0\ (k9\_xtuple\_0\ X3))\ (k2\_valued\_2\ (k1\_valued\_2\ X1))\ (k52\_valued\_2\ X0\ X1\ X2\ X3)\ X4 = k52\_valued\_2\ X0\ X1\ X2\ (k1\_valued\_1\ X3\ X4))))))$$