t49_funct_5 (TMK67CwVYQtJi49JytomyoVMxD3EaR2HQe2)

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Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_funct\_5 : \iota \Rightarrow \iota$ be given. Let $k1\_funct\_5 : \iota \Rightarrow \iota$ be given. Let $k4\_funct\_5 : \iota \Rightarrow \iota$ be given. Let $k3\_funct\_5 : \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ 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.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X2) \wedge (v1\_funct\_1\ X2)) \Rightarrow ((r1\_tarski\ (k10\_xtuple\_0\ X2)\ (k1\_funct\_2\ X0\ X1)) \Rightarrow ((X0 = k1\_xboole\_0) \vee ((k1\_funct\_5\ (k2\_funct\_5\ X2) = X2) \wedge (k3\_funct\_5\ (k4\_funct\_5\ X2) = X2)))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X2) \wedge (v1\_funct\_1\ X2)) \Rightarrow (\forall X3.((v1\_relat\_1\ X3) \wedge (v1\_funct\_1\ X3)) \Rightarrow (((k9\_xtuple\_0\ X2 = k2\_zfmisc\_1\ X0\ X1) \wedge ((k9\_xtuple\_0\ X3 = k2\_zfmisc\_1\ X0\ X1) \wedge (k3\_funct\_5\ X2 = k3\_funct\_5\ X3))) \Rightarrow (X2 = X3))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X2) \wedge (v1\_funct\_1\ X2)) \Rightarrow (\forall X3.((v1\_relat\_1\ X3) \wedge (v1\_funct\_1\ X3)) \Rightarrow (((k9\_xtuple\_0\ X2 = k2\_zfmisc\_1\ X0\ X1) \wedge ((k9\_xtuple\_0\ X3 = k2\_zfmisc\_1\ X0\ X1) \wedge (k1\_funct\_5\ X2 = k1\_funct\_5\ X3))) \Rightarrow (X2 = X3))) \tag{4}$$

Assume the following.

$$(k2\_funct\_5\ k1\_xboole\_0 = k1\_xboole\_0) \wedge (k4\_funct\_5\ k1\_xboole\_0 = k1\_xboole\_0) \tag{5}$$

Assume the following.

$$(k1\_funct\_5\ k1\_xboole\_0 = k1\_xboole\_0)\wedge(k3\_funct\_5\ k1\_xboole\_0 = k1\_xboole\_0) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\Rightarrow((k9\_xtuple\_0\ X2 = k2\_zfmisc\_1\ X0\ X1)\Rightarrow((r1\_tarski\ (k10\_xtuple\_0\ (k1\_funct\_5\ X2))\ (k1\_funct\_2\ X1\ (k10\_xtuple\_0\ X2)))\wedge(r1\_tarski\ (k10\_xtuple\_0\ (k3\_funct\_5\ X2))\ (k1\_funct\_2\ X0\ (k10\_xtuple\_0\ X2))))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\Rightarrow((r1\_tarski\ (k10\_xtuple\_0\ X2)\ (k1\_funct\_2\ X0\ X1))\Rightarrow((k9\_xtuple\_0\ (k2\_funct\_5\ X2) = k2\_zfmisc\_1\ (k9\_xtuple\_0\ X2)\ X0)\wedge(k9\_xtuple\_0\ (k4\_funct\_5\ X2) = k2\_zfmisc\_1\ X0\ (k9\_xtuple\_0\ X2)))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\Rightarrow((k9\_xtuple\_0\ X2 = k2\_zfmisc\_1\ X0\ X1)\Rightarrow((k2\_zfmisc\_1\ X0\ X1 = k1\_xboole\_0)\vee((k9\_xtuple\_0\ (k1\_funct\_5\ X2) = X0)\wedge(k9\_xtuple\_0\ (k3\_funct\_5\ X2) = X1)))) \tag{9}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\exists X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\wedge(\neg v1\_xboole\_0\ X1)) \tag{10}$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge(v1\_relat\_1\ X0))\Rightarrow(\neg v1\_xboole\_0\ (k9\_xtuple\_0\ X0)) \tag{11}$$

Assume the following.

$$v1\_xboole\_0\ k1\_xboole\_0 \tag{12}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow((v1\_relat\_1\ (k4\_funct\_5\ X0))\wedge(v1\_funct\_1\ (k4\_funct\_5\ X0))) \tag{13}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow((v1\_relat\_1\ (k3\_funct\_5\ X0))\wedge(v1\_funct\_1\ (k3\_funct\_5\ X0))) \tag{14}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow((v1\_relat\_1\ (k2\_funct\_5\ X0))\wedge(v1\_funct\_1\ (k2\_funct\_5\ X0))) \tag{15}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow((v1\_relat\_1\ (k1\_funct\_5\ X0))\wedge(v1\_funct\_1\ (k1\_funct\_5\ X0))) \tag{16}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge(v5\_relat\_1\ X1\ X0))\Rightarrow((v1\_xboole\_0\ X1)\wedge((v1\_relat\_1\ X1)\wedge(v5\_relat\_1\ X1\ X0)))) \tag{17}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge(v4\_relat\_1\ X1\ X0))\Rightarrow((v1\_xboole\_0\ X1)\wedge((v1\_relat\_1\ X1)\wedge(v4\_relat\_1\ X1\ X0)))) \tag{18}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow((v4\_relat\_1\ X2\ X0)\wedge(v5\_relat\_1\ X2\ X1)) \tag{19}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \tag{20}$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\Rightarrow((k9\_xtuple\_0\ X2 = k2\_zfmisc\_1\ X0\ X1)\Rightarrow((k2\_funct\_5\ (k1\_funct\_5\ X2) = X2)\wedge(k4\_funct\_5\ (k3\_funct\_5\ X2) = X2)))$$