t55_compos_1 (TM-Grr2CVXUfB5kDFa6PzCy5oBVDXdz7A7Tb)

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Let $l1\_compos\_1 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_compos\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_finset\_1 : \iota \Rightarrow o$ be given. Let $v1\_afinsq\_1 : \iota \Rightarrow o$ be given. Let $k5\_card\_1 : \iota \Rightarrow \iota$ be given. Let $k10\_compos\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $v5\_ordinal1 : \iota \Rightarrow o$ be given. Let $k5\_afinsq\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_afinsq\_1 : \iota \Rightarrow \iota$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_tarski : \iota \Rightarrow \iota$ be given. Let $k1\_afinsq\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_ordinal4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_card\_1 : \iota \Rightarrow \iota$ be given. Let $k3\_afinsq\_1 : \iota \Rightarrow \iota$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k4\_compos\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_compos\_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge ((v5\_ordinal1\ X1) \wedge ((v1\_funct\_1\ X1) \wedge (v1\_finset\_1\ X1)))) \Rightarrow ((X1 = k5\_afinsq\_1\ X0) \Leftrightarrow ((k2\_afinsq\_1\ X1 = np\_\_1) \wedge (k10\_xtuple\_0\ X1 = k1\_tarski\ X0))) \tag{1}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge ((v5\_ordinal1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v1\_finset\_1\ X0)))) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge ((v5\_ordinal1\ X1) \wedge ((v1\_funct\_1\ X1) \wedge (v1\_finset\_1\ X1)))) \Rightarrow (k1\_afinsq\_1\ (k1\_ordinal4\ X0\ X1) = k2\_nat\_1\ (k1\_afinsq\_1\ X0)\ (k1\_afinsq\_1\ X1))) \tag{2}$$

Assume the following.

$$\forall X0.(v1\_finset\_1\ X0) \Rightarrow (k5\_card\_1\ X0 = k1\_card\_1\ X0) \tag{3}$$

Assume the following.

$$\forall X0.k5\_afinsq\_1\ X0 = k3\_afinsq\_1\ X0 \tag{4}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge ((v5\_ordinal1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v1\_finset\_1\ X0)))) \Rightarrow (k2\_afinsq\_1\ X0 = k9\_xtuple\_0\ X0) \tag{5}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v5\_ordinal1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finset\_1\ X0))))\Rightarrow(k1\_afinsq\_1\ X0 = k1\_card\_1\ X0) \tag{6}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v5\_ordinal1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finset\_1\ X0))))\Rightarrow(k1\_card\_1\ X0 = k9\_xtuple\_0\ X0) \tag{7}$$

Assume the following.

$$\forall X0.(v5\_ordinal1\ (k3\_afinsq\_1\ X0))\wedge(v1\_finset\_1\ (k3\_afinsq\_1\ X0)) \tag{8}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ (k3\_afinsq\_1\ X0))\wedge(v1\_funct\_1\ (k3\_afinsq\_1\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge((v5\_ordinal1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finset\_1\ X0))))\wedge((v1\_relat\_1\ X1)\wedge((v5\_ordinal1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_finset\_1\ X1)))))\Rightarrow((v1\_relat\_1\ (k1\_ordinal4\ X0\ X1))\wedge((v5\_ordinal1\ (k1\_ordinal4\ X0\ X1))\wedge((v1\_funct\_1\ (k1\_ordinal4\ X0\ X1))\wedge(v1\_finset\_1\ (k1\_ordinal4\ X0\ X1))))) \tag{10}$$

Assume the following.

$$\forall X0.(l1\_compos\_1\ X0)\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ k5\_numbers)\wedge((v5\_relat\_1\ X1\ (u1\_compos\_1\ X0))\wedge((v1\_funct\_1\ X1)\wedge((v1\_finset\_1\ X1)\wedge(v1\_afinsq\_1\ X1))))))\Rightarrow(k10\_compos\_1\ X0\ X1 = k1\_ordinal4\ X1\ (k4\_compos\_1\ X0))) \tag{11}$$

Assume the following.

$$\forall X0.(l1\_compos\_1\ X0)\Rightarrow(k4\_compos\_1\ X0 = k3\_afinsq\_1\ (k2\_compos\_1\ X0)) \tag{12}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v4\_relat\_1\ X0\ k5\_numbers)\wedge((v1\_funct\_1\ X0)\wedge((v1\_finset\_1\ X0)\wedge(v1\_afinsq\_1\ X0)))))\Rightarrow((v1\_relat\_1\ X0)\wedge((v5\_ordinal1\ X0)\wedge(v1\_funct\_1\ X0))) \tag{13}$$

Theorem 1

$$\forall X0.(l1\_compos\_1\ X0)\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ k5\_numbers)\wedge((v5\_relat\_1\ X1\ (u1\_compos\_1\ X0))\wedge((v1\_funct\_1\ X1)\wedge((v1\_finset\_1\ X1)\wedge(v1\_afinsq\_1\ X1)))))))\Rightarrow(k5\_card\_1\ (k10\_compos\_1\ X0\ X1) = k2\_nat\_1\ (k5\_card\_1\ X1)\ np\_\_1))$$