t4_numeral1 (TM-VAyuEFTMG4XH4fVErZdhDe6UN71ptQz78)

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Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np\_\_1 : \iota$ be given. Let $k1\_afinsq\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_numeral1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $np\_\_0 : \iota$ be given. Let $k5\_afinsq\_1 : \iota \Rightarrow \iota$ be given. Let $k3\_afinsq\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v4\_valued\_0 : \iota \Rightarrow o$ be given. Let $k1\_recdef\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5\_ordinal1 : \iota \Rightarrow o$ be given. Let $v1\_finset\_1 : \iota \Rightarrow o$ be given. Let $k1\_card\_1 : \iota \Rightarrow \iota$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_card\_1 : \iota \Rightarrow o$ be given. Let $v3\_relat\_1 : \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $k1\_numeral1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k21\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow ((\neg r1\_xxreal\_0\ np\_\_1\ X0) \Rightarrow (X0 = k6\_numbers)) \tag{2}$$

Assume the following.

$$v1\_xboole\_0\ np\_\_0 \tag{3}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{4}$$

Assume the following.

$$\forall X0.k5\_afinsq\_1\ X0 = k3\_afinsq\_1\ X0 \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v4\_valued\_0\ X0))) \Rightarrow (k1\_recdef\_1\ X0\ X1 = k1\_funct\_1\ X0\ X1) \tag{6}$$

Assume the following.

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

Assume the following.

$$\forall X0.\exists X1.(v1\_relat\_1\ X1)\wedge((v5\_relat\_1\ X1\ X0)\wedge((v5\_ordinal1\ X1)\wedge((v1\_funct\_1\ X1)\wedge((v1\_xboole\_0\ X1)\wedge(v1\_finset\_1\ X1))))) \tag{8}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v5\_ordinal1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finset\_1\ X0))))\Rightarrow(k1\_card\_1\ X0 = k9\_xtuple\_0\ X0) \tag{9}$$

Assume the following.

$$\forall X0.\neg v1\_xboole\_0\ (k3\_afinsq\_1\ X0) \tag{10}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow((\neg v1\_xboole\_0\ (k1\_card\_1\ X0))\wedge(v1\_card\_1\ (k1\_card\_1\ X0))) \tag{11}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow((v1\_xboole\_0\ (k1\_card\_1\ X0))\wedge(v1\_card\_1\ (k1\_card\_1\ X0))) \tag{12}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v5\_ordinal1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finset\_1\ X0))))\Rightarrow(v7\_ordinal1\ (k9\_xtuple\_0\ X0)) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0)\wedge((v3\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0)))\Rightarrow(v1\_xboole\_0\ (k1\_funct\_1\ X0\ X1)) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0)\wedge(v7\_ordinal1\ X1))\Rightarrow((v1\_relat\_1\ (k2\_numeral1\ X0\ X1))\wedge((v5\_relat\_1\ (k2\_numeral1\ X0\ X1)\ k5\_numbers)\wedge((v1\_funct\_1\ (k2\_numeral1\ X0\ X1))\wedge((v5\_ordinal1\ (k2\_numeral1\ X0\ X1))\wedge(v1\_finset\_1\ (k2\_numeral1\ X0\ X1)))))) \tag{15}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow((\neg r1\_xxreal\_0\ X1\ np\_\_1)\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v5\_relat\_1\ X2\ k5\_numbers)\wedge((v1\_funct\_1\ X2)\wedge((v5\_ordinal1\ X2)\wedge(v1\_finset\_1\ X2)))))\Rightarrow(((X0\neq k6\_numbers)\Rightarrow((X2 = k2\_numeral1\ X0\ X1)\Leftrightarrow((k1\_numeral1\ X2\ X1 = X0)\wedge((k1\_recdef\_1\ X2\ (k21\_binop\_2\ (k1\_afinsq\_1\ X2)\ np\_\_1)\neq k6\_numbers)\wedge(\forall X3.(v7\_ordinal1\ X3)\Rightarrow((X3 \in k1\_relset\_1\ k5\_numbers\ X2)\Rightarrow((r1\_xxreal\_0\ k6\_numbers\ (k1\_recdef\_1\ X2\ X3))\wedge(\neg r1\_xxreal\_0\ X1\ (k1\_recdef\_1\ X2\ X3)))))))))\wedge((X0 = k6\_numbers)\Rightarrow((X2 = k2\_numeral1\ X0\ X1)\Leftrightarrow(X2 = k5\_afinsq\_1\ k6\_numbers))))))) \tag{16}$$

Assume the following.

$$\forall X0.((v1\_xboole\_0\ X0)\wedge(v1\_relat\_1\ X0))\Rightarrow((v1\_relat\_1\ X0)\wedge(v4\_valued\_0\ X0)) \tag{17}$$

Assume the following.

$$\forall X0.((v1\_xboole\_0\ X0)\wedge(v1\_relat\_1\ X0))\Rightarrow((v1\_relat\_1\ X0)\wedge(v3\_relat\_1\ X0)) \tag{18}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(v1\_relat\_1\ X0) \tag{19}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(v1\_funct\_1\ X0) \tag{20}$$

Theorem 1

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow((\neg r1\_xxreal\_0\ X1\ np\_\_1)\Rightarrow(r1\_xxreal\_0\ np\_\_1\ (k1\_afinsq\_1\ (k2\_numeral1\ X0\ X1)))))$$