

t26\_valued\_0  
(TMKj4YJzdKbaz75Qf4HZhFahV2zQosXznCp)

October 27, 2020

Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  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  $v3\_funct\_1 : \iota \Rightarrow o$  be given. Let  $m2\_valued\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k8\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k10\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_valued\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow ( \\ \forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 k5\_numbers X1) \wedge ( \\ m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X1)))))) \Rightarrow \\ (k8\_nat\_1 X1 X2 X0 \in k10\_xtuple\_0 X2))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ( \\ (v1\_funct\_2 X1 k5\_numbers X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ k5\_numbers X0)))))) \Rightarrow (r2\_funct\_2 k5\_numbers X0 (k10\_nat\_1 X0 X1 \\ k6\_numbers) X1)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge \\ (v1\_funct\_2 X1 k5\_numbers X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ k5\_numbers X0)))) \Rightarrow (\forall X2.(m2\_valued\_0 X2 X0 X1) \Rightarrow (r1\_tarski \\ (k2\_relset\_1 X0 X2) (k2\_relset\_1 X0 X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$m1\_subset\_1 k1\_xboole\_0 k4\_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k2\_xcmplx\_0 X0 k6\_numbers = X0) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow \\ (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 \\ X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow ((v3\_funct\_1 X2) \Leftrightarrow (\exists X3. \\ (m1\_subset\_1 X3 X1) \wedge (k2\_relset\_1 X1 X2 = k1\_tarski X3)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1 X2) \wedge \\ ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ X0 X1)))) \wedge ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X0 X1) \wedge (m1\_subset\_1 \\ X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))) \Rightarrow ((r2\_funct\_2 X0 X1 X2 \\ X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 \\ X1 k5\_numbers X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers \\ X0)))) \wedge (v7\_ordinal1 X2)) \Rightarrow (k8\_nat\_1 X0 X1 X2 = k1\_funct\_1 X1 X2) \end{aligned} \quad (9)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (10)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v5\_relat\_1 X1 X0))\Rightarrow(k2\_relset\_1 X0 X1 = k10\_xtuple\_0 X1) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge(((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 k5\_numbers X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0))))))\wedge(v7\_ordinal1 X2)))\Rightarrow(k1\_valued\_0 X0 X1 X2 = k9\_nat\_1 X1 X2) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge(((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 k5\_numbers X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0))))))\wedge(v7\_ordinal1 X2)))\Rightarrow(k10\_nat\_1 X0 X1 X2 = k9\_nat\_1 X1 X2) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1 (k2\_zfmisc\_1 X0 X1) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 k5\_numbers X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0))))))\Rightarrow(\forall X2.(m2\_valued\_0 X2 X0 X1)\Rightarrow((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 k5\_numbers X0)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0)))))) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge(((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 k5\_numbers X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0))))))\wedge(v7\_ordinal1 X2)))\Rightarrow(m2\_valued\_0 (k1\_valued\_0 X0 X1 X2) X0 X1) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge(((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 k5\_numbers X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0))))))\wedge(v7\_ordinal1 X2)))\Rightarrow((v1\_funct\_1 (k10\_nat\_1 X0 X1 X2))\wedge((v1\_funct\_2 (k10\_nat\_1 X0 X1 X2) k5\_numbers X0)\wedge(m1\_subset\_1 (k10\_nat\_1 X0 X1 X2) (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0)))))) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarSKI X0 X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow (X2 \in X1)) \quad (19)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0)\wedge((v4\_relat\_1 X0 k5\_numbers)\wedge((v1\_funct\_1 \\ X0)\wedge(v1\_partfun1 X0 k5\_numbers))))\Rightarrow(\forall X1.(v7\_ordinal1 \\ X1)\Rightarrow(\forall X2.((v1\_relat\_1 X2)\wedge((v4\_relat\_1 X2 k5\_numbers)\wedge \\ ((v1\_funct\_1 X2)\wedge(v1\_partfun1 X2 k5\_numbers))))\Rightarrow((X2 = k9\_nat\_1 \\ X0 X1)\Leftrightarrow(\forall X3.(v7\_ordinal1 X3)\Rightarrow(k1\_funct\_1 X2 X3 = k1\_funct\_1 \\ X0 (k2\_xcmplx\_0 X3 X1)))))) \end{aligned} \quad (20)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Leftrightarrow(\forall X1.\neg X1 \in X0) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_tarSKI X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow (X2 = X0)) \quad (22)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((v1\_funct\_1 X1)\wedge( \\ (v1\_funct\_2 X1 k5\_numbers X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ k5\_numbers X0))))\Rightarrow((v3\_funct\_1 X1)\Leftrightarrow(\exists X2.(m1\_subset\_1 \\ X2 X0)\wedge(\forall X3.(v7\_ordinal1 X3)\Rightarrow(k8\_nat\_1 X0 X1 X3 = X2)))))) \end{aligned} \quad (23)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Leftrightarrow(X0 \in k4\_ordinal1) \quad (24)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1)\Rightarrow(v7\_ordinal1 X0) \quad (25)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xcmplx\_0 X0) \quad (26)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(\neg v1\_xboole\_0 X1)\Rightarrow(\forall X2.(m1\_subset\_1 \\ X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow((v1\_funct\_2 X2 X0 X1)\Rightarrow( \\ v1\_partfun1 X2 X0))) \end{aligned} \quad (27)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(v1\_xreal\_0 X0) \quad (28)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow((v4\_relat\_1 X2 X0)\wedge(v5\_relat\_1 X2 X1)) \quad (29)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\Rightarrow(v1\_relat\_1 X1)) \quad (30)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((v1\_funct\_1 X1)\wedge \\ (v1\_funct\_2 X1 k5\_numbers X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ k5\_numbers X0))))\Rightarrow(\forall X2.((v1\_funct\_1 X2)\wedge((v1\_funct\_2 \\ X2 k5\_numbers X0)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers \\ X0))))\Rightarrow(((v3\_funct\_1 X1)\wedge(m2\_valued\_0 X2 X0 X1))\Rightarrow(r2\_funct\_2 \\ k5\_numbers X0 X1 X2)))) \end{aligned}$$