

t36\_compos\_2  
(TMXR2K6GieJWNnosqKeTA522t99RiawKCKZ)

October 27, 2020

Let  $v1\_amistd.4 : \iota \Rightarrow o$  be given. Let  $l1\_compos.1 : \iota \Rightarrow o$  be given. Let  $v6\_compos.0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_compos.1 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset.1 : \iota \Rightarrow \iota \Rightarrow o$  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  $v1\_funct.1 : \iota \Rightarrow o$  be given. Let  $v1\_finset.1 : \iota \Rightarrow o$  be given. Let  $v1\_afinsq.1 : \iota \Rightarrow o$  be given. Let  $v3\_compos.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_compos.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_compos.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_xboole.0 : \iota$  be given. Let  $k11\_compos.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k62\_valued.1 : \iota \Rightarrow \iota$  be given. Let  $np.1 : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $r2\_compos.2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xxreal.0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_compos.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $np.0 : \iota$  be given. Assume the following.

$$\forall X0.(v1\_xboole.0 X0) \Rightarrow (X0 = k1\_xboole.0) \quad (1)$$

Assume the following.

$$\forall X0.(l1\_compos.1 X0) \Rightarrow (\forall X1.(m1\_subset.1 X1 (u1\_compos.1 X0)) \Rightarrow (k1\_funct.1 (k11\_compos.1 X0 X1) k6\_numbers = X1)) \quad (2)$$

Assume the following.

$$\forall X0.((v1\_amistd.4 X0) \wedge (l1\_compos.1 X0)) \Rightarrow (\forall X1.((v6\_compos.0 X1 (u1\_compos.1 X0)) \wedge (m1\_subset.1 X1 (u1\_compos.1 X0))) \Rightarrow (k62\_valued.1 (k11\_compos.1 X0 X1) = np.1)) \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_amistd\_4 X0) \wedge (l1\_compos\_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v1\_xboole\_0 X1) \wedge ((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 k5\_numbers) \wedge \\
& ((v5\_relat\_1 X1 (u1\_compos\_1 X0)) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_finset\_1 \\
& X1) \wedge ((v1\_afinsq\_1 X1) \wedge ((v3\_compos\_1 X1 X0) \wedge (v4\_compos\_1 X1 X0)))))) \Rightarrow \\
& (\forall X2.((\neg v1\_xboole\_0 X2) \wedge ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 \\
& X2 k5\_numbers) \wedge ((v5\_relat\_1 X2 (u1\_compos\_1 X0)) \wedge ((v1\_funct\_1 \\
& X2) \wedge ((v1\_finset\_1 X2) \wedge ((v1\_afinsq\_1 X2) \wedge ((v3\_compos\_1 X2 X0) \wedge \\
& (v4\_compos\_1 X2 X0)))))) \Rightarrow (\forall X3.(v7\_ordinal1 X3) \Rightarrow (( \\
& r2\_compos\_2 X1 X2) \Rightarrow ((r1\_xxreal\_0 (k62\_valued\_1 X1) X3) \vee (k1\_funct\_1 \\
& X1 X3 = k1\_funct\_1 X2 X3))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_amistd\_4 X0) \wedge (l1\_compos\_1 X0)) \Rightarrow (\forall X1. \\
& ((\neg v1\_xboole\_0 X1) \wedge ((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 k5\_numbers) \wedge \\
& ((v5\_relat\_1 X1 (u1\_compos\_1 X0)) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_finset\_1 \\
& X1) \wedge ((v1\_afinsq\_1 X1) \wedge ((v3\_compos\_1 X1 X0) \wedge (v4\_compos\_1 X1 X0)))))) \Rightarrow \\
& (\forall X2.((\neg v1\_xboole\_0 X2) \wedge ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 \\
& X2 k5\_numbers) \wedge ((v5\_relat\_1 X2 (u1\_compos\_1 X0)) \wedge ((v1\_funct\_1 \\
& X2) \wedge ((v1\_finset\_1 X2) \wedge ((v1\_afinsq\_1 X2) \wedge ((v3\_compos\_1 X2 X0) \wedge \\
& (v4\_compos\_1 X2 X0)))))) \Rightarrow (r2\_compos\_2 X1 (k8\_compos\_1 X0 X1 \\
& X2))))
\end{aligned} \tag{5}$$

Assume the following.

$$m1\_subset\_1 k1\_xboole\_0 k4\_ordinal1 \tag{6}$$

Assume the following.

$$v1\_xboole\_0 np\_0 \tag{7}$$

Assume the following.

$$\neg r1\_xxreal\_0 np\_1 np\_0 \tag{8}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{9}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{10}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1\_amistd\_4 X0)\wedge(l1\_compos\_1 X0))\wedge \\ & ((v6\_compos\_0 X1 (u1\_compos\_1 X0))\wedge(m1\_subset\_1 X1 (u1\_compos\_1 \\ & X0))))\Rightarrow((v1\_relat\_1 (k11\_compos\_1 X0 X1))\wedge((v4\_relat\_1 (k11\_compos\_1 \\ & X0 X1) k5\_numbers)\wedge((v5\_relat\_1 (k11\_compos\_1 X0 X1) (u1\_compos\_1 \\ & X0))\wedge((v1\_funct\_1 (k11\_compos\_1 X0 X1))\wedge((v1\_finset\_1 (k11\_compos\_1 \\ & X0 X1))\wedge((v3\_compos\_1 (k11\_compos\_1 X0 X1) X0)\wedge(v4\_compos\_1 ( \\ & k11\_compos\_1 X0 X1) X0))))))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((l1\_compos\_1 X0)\wedge(m1\_subset\_1 X1 (u1\_compos\_1 \\ & X0)))\Rightarrow((\neg v1\_xboole\_0 (k11\_compos\_1 X0 X1))\wedge((v1\_relat\_1 (k11\_compos\_1 \\ & X0 X1))\wedge((v4\_relat\_1 (k11\_compos\_1 X0 X1) k5\_numbers)\wedge((v5\_relat\_1 \\ & (k11\_compos\_1 X0 X1) (u1\_compos\_1 X0))\wedge((v1\_funct\_1 (k11\_compos\_1 \\ & X0 X1))\wedge((v1\_finset\_1 (k11\_compos\_1 X0 X1))\wedge(v1\_afinsq\_1 (k11\_compos\_1 \\ & X0 X1)))))))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((v1\_amistd\_4 X0)\wedge(l1\_compos\_1 \\ & X0))\wedge(((v6\_compos\_0 X1 (u1\_compos\_1 X0))\wedge(m1\_subset\_1 X1 (u1\_compos\_1 \\ & X0)))\wedge((\neg v1\_xboole\_0 X2)\wedge((v1\_relat\_1 X2)\wedge((v4\_relat\_1 X2 k5\_numbers)\wedge \\ & ((v5\_relat\_1 X2 (u1\_compos\_1 X0))\wedge((v1\_funct\_1 X2)\wedge((v1\_finset\_1 \\ & X2)\wedge((v1\_afinsq\_1 X2)\wedge((v3\_compos\_1 X2 X0)\wedge(v4\_compos\_1 X2 X0))))))))))\Rightarrow \\ & ((\neg v1\_xboole\_0 (k1\_compos\_2 X0 X1 X2))\wedge((v1\_relat\_1 (k1\_compos\_2 \\ & X0 X1 X2))\wedge((v4\_relat\_1 (k1\_compos\_2 X0 X1 X2) k5\_numbers)\wedge((v5\_relat\_1 \\ & (k1\_compos\_2 X0 X1 X2) (u1\_compos\_1 X0))\wedge((v1\_funct\_1 (k1\_compos\_2 \\ & X0 X1 X2))\wedge((v1\_finset\_1 (k1\_compos\_2 X0 X1 X2))\wedge((v1\_afinsq\_1 \\ & (k1\_compos\_2 X0 X1 X2))\wedge((v3\_compos\_1 (k1\_compos\_2 X0 X1 X2) X0)\wedge \\ & (v4\_compos\_1 (k1\_compos\_2 X0 X1 X2) X0)))))))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((l1\_compos\_1 X0)\wedge(m1\_subset\_1 X1 (u1\_compos\_1 \\ & X0)))\Rightarrow((v1\_relat\_1 (k11\_compos\_1 X0 X1))\wedge((v4\_relat\_1 (k11\_compos\_1 \\ & X0 X1) k5\_numbers)\wedge((v5\_relat\_1 (k11\_compos\_1 X0 X1) (u1\_compos\_1 \\ & X0))\wedge((v1\_funct\_1 (k11\_compos\_1 X0 X1))\wedge(v1\_finset\_1 (k11\_compos\_1 \\ & X0 X1)))))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_amistd\_4 X0) \wedge (l1\_compos\_1 X0)) \Rightarrow (\forall X1. \\
& ((v6\_compos\_0 X1 (u1\_compos\_1 X0)) \wedge (m1\_subset\_1 X1 (u1\_compos\_1 \\
& X0))) \Rightarrow (\forall X2.((\neg v1\_xboole\_0 X2) \wedge ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 \\
& X2 k5\_numbers) \wedge ((v5\_relat\_1 X2 (u1\_compos\_1 X0)) \wedge ((v1\_funct\_1 \\
& X2) \wedge ((v1\_finset\_1 X2) \wedge ((v1\_afinsq\_1 X2) \wedge ((v3\_compos\_1 X2 X0) \wedge \\
& (v4\_compos\_1 X2 X0)))))))))) \Rightarrow (k1\_compos\_2 X0 X1 X2 = k8\_compos\_1 \\
& X0 (k11\_compos\_1 X0 X1) X2))
\end{aligned} \tag{15}$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \tag{16}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((v1\_amistd\_4 X0) \wedge (l1\_compos\_1 X0)) \Rightarrow (\forall X1. \\
& ((v6\_compos\_0 X1 (u1\_compos\_1 X0)) \wedge (m1\_subset\_1 X1 (u1\_compos\_1 \\
& X0))) \Rightarrow (\forall X2.((\neg v1\_xboole\_0 X2) \wedge ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 \\
& X2 k5\_numbers) \wedge ((v5\_relat\_1 X2 (u1\_compos\_1 X0)) \wedge ((v1\_funct\_1 \\
& X2) \wedge ((v1\_finset\_1 X2) \wedge ((v1\_afinsq\_1 X2) \wedge ((v3\_compos\_1 X2 X0) \wedge \\
& (v4\_compos\_1 X2 X0)))))))))) \Rightarrow (k1\_funct\_1 (k1\_compos\_2 X0 X1 X2) \\
& k6\_numbers = X1))
\end{aligned}$$