

t19\_toprns\_1  
(TMLhsnPNGSWRvzxD1ut2Yu3tfRv7cS2pDYa)

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Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_toprns\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_toprns\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_toprns\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\
& ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 (k15\_euclid \\
& X0))) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers ( \\
& u1\_struct\_0 (k15\_euclid X0))))))) \Rightarrow (\forall X2. ((v1\_funct\_1 \\
& X2) \wedge ((v1\_funct\_2 X2 k5\_numbers (u1\_struct\_0 (k15\_euclid X0))) \wedge \\
& (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 \\
& (k15\_euclid X0))))))) \Rightarrow (k4\_toprns\_1 X0 X1 (k3\_toprns\_1 X0 X2) = \\
& k1\_toprns\_1 X0 X1 X2)))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\
& ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 (k15\_euclid \\
& X0))) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers ( \\
& u1\_struct\_0 (k15\_euclid X0))))))) \Rightarrow (k3\_toprns\_1 X0 (k3\_toprns\_1 \\
& X0 X1) = X1))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\
& ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 (k15\_euclid \\
& X0))) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers ( \\
& u1\_struct\_0 (k15\_euclid X0)))))) \Rightarrow (\forall X2. ((v1\_funct\_1 \\
& X2) \wedge ((v1\_funct\_2 X2 k5\_numbers (u1\_struct\_0 (k15\_euclid X0))) \wedge \\
& (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 \\
& (k15\_euclid X0)))))) \Rightarrow (\forall X3. ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 \\
& X3 k5\_numbers (u1\_struct\_0 (k15\_euclid X0))) \wedge (m1\_subset\_1 X3 \\
& (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 (k15\_euclid \\
& X0)))))) \Rightarrow (k4\_toprns\_1 X0 X1 (k1\_toprns\_1 X0 X2 X3) = k4\_toprns\_1 \\
& X0 (k4\_toprns\_1 X0 X1 X2) X3)))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\
& X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1))
\end{aligned} \tag{4}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{5}$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1) \wedge (v3\_ordinal1 k4\_ordinal1) \tag{6}$$

Assume the following.

$$v6\_membered k4\_ordinal1 \tag{7}$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((v7\_ordinal1 X0) \wedge (((v1\_funct\_1 \\
& X1) \wedge ((v1\_funct\_2 X1 k5\_numbers (u1\_struct\_0 (k15\_euclid X0))) \wedge \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 \\
& (k15\_euclid X0)))))) \wedge ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 k5\_numbers \\
& (u1\_struct\_0 (k15\_euclid X0))) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 (k15\_euclid X0)))))) \Rightarrow \\
& ((v1\_funct\_1 (k4\_toprns\_1 X0 X1 X2)) \wedge ((v1\_funct\_2 (k4\_toprns\_1 \\
& X0 X1 X2) k5\_numbers (u1\_struct\_0 (k15\_euclid X0))) \wedge (m1\_subset\_1 \\
& (k4\_toprns\_1 X0 X1 X2) (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (u1\_struct\_0 \\
& (k15\_euclid X0))))))
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v7\_ordinal1\ X0)\wedge((v1\_funct\_1\ X1)\wedge(( \\ v1\_funct\_2\ X1\ k5\_numbers\ (u1\_struct\_0\ (k15\_euclid\ X0)))\wedge(m1\_subset\_1 \\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0\ (k15\_euclid \\ X0))))))\Rightarrow((v1\_funct\_1\ (k3\_toprns\_1\ X0\ X1))\wedge((v1\_funct\_2\ ( \\ k3\_toprns\_1\ X0\ X1)\ k5\_numbers\ (u1\_struct\_0\ (k15\_euclid\ X0)))\wedge \\ (m1\_subset\_1\ (k3\_toprns\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers \\ (u1\_struct\_0\ (k15\_euclid\ X0))))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \quad (11)$$

Assume the following.

$$\forall X0.(v6\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow(v7\_ordinal1\ X1)) \quad (12)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(m2\_subset\_1\ X0\ k1\_numbers\ k5\_numbers)\Rightarrow(\forall X1. \\ ((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ (u1\_struct\_0\ (k15\_euclid \\ X0)))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ ( \\ u1\_struct\_0\ (k15\_euclid\ X0))))))\Rightarrow(\forall X2.((v1\_funct\_1 \\ X2)\wedge((v1\_funct\_2\ X2\ k5\_numbers\ (u1\_struct\_0\ (k15\_euclid\ X0)))\wedge \\ (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0 \\ (k15\_euclid\ X0))))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2 \\ X3\ k5\_numbers\ (u1\_struct\_0\ (k15\_euclid\ X0)))\wedge(m1\_subset\_1\ X3 \\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ (u1\_struct\_0\ (k15\_euclid \\ X0))))))\Rightarrow(k4\_toprns\_1\ X0\ X1\ (k4\_toprns\_1\ X0\ X2\ X3) = k1\_toprns\_1 \\ X0\ (k4\_toprns\_1\ X0\ X1\ X2)\ X3))) \end{aligned}$$