

t25\_jgraph\_3 (TMZE-  
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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k1\_real\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k17\_euclid : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k18\_euclid : \iota \Rightarrow \iota$  be given. Let  $v1\_topreal2 : \iota \Rightarrow o$  be given. Let  $v2\_compts\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $k1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_tops\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $k3\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v5\_rltopsp1 : \iota \Rightarrow o$  be given.

Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\
& \quad np\_2)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& \quad (k15\_euclid np\_2)))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\
& \quad X2 (u1\_struct\_0 (k1\_pre\_topc (k15\_euclid np\_2) X1)) (u1\_struct\_0 \\
& \quad (k1\_pre\_topc (k15\_euclid np\_2) X0)))) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
& \quad (k2\_zfmisc\_1 (u1\_struct\_0 (k1\_pre\_topc (k15\_euclid np\_2) X1)) \\
& \quad (u1\_struct\_0 (k1\_pre\_topc (k15\_euclid np\_2) X0)))))) \Rightarrow (((X1 = \\
& \quad ReplSep (toset (\lambda X3 : \iota.m1\_subset\_1 X3 (u1\_struct\_0 (k15\_euclid \\
& \quad \quad np\_2)))) (\lambda X3 : \iota.\neg(\neg(k1\_real\_1 np\_1 = k17\_euclid X3) \wedge \\
& \quad (r1\_xxreal\_0 (k1\_real\_1 np\_1) (k18\_euclid X3)) \wedge (r1\_xxreal\_0 \\
& \quad (k18\_euclid X3) np\_1))) \wedge ((\neg(k17\_euclid X3 = np\_1) \wedge ((r1\_xxreal\_0 \\
& \quad (k1\_real\_1 np\_1) (k18\_euclid X3)) \wedge (r1\_xxreal\_0 (k18\_euclid \\
& \quad X3) np\_1))) \wedge ((\neg(k1\_real\_1 np\_1 = k18\_euclid X3) \wedge ((r1\_xxreal\_0 \\
& \quad (k1\_real\_1 np\_1) (k17\_euclid X3)) \wedge (r1\_xxreal\_0 (k17\_euclid \\
& \quad X3) np\_1))) \wedge (\neg(np\_1 = k18\_euclid X3) \wedge ((r1\_xxreal\_0 (k1\_real\_1 \\
& \quad np\_1) (k17\_euclid X3)) \wedge (r1\_xxreal\_0 (k17\_euclid X3) np\_1)))))) \\
& \quad (\lambda X3 : \iota.X3) \wedge (v3\_tops\_2 X2 (k1\_pre\_topc (k15\_euclid np\_2) \\
& \quad X1) (k1\_pre\_topc (k15\_euclid np\_2) X0))) \Rightarrow (v1\_topreal2 X0)))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& ((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\
& ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers))
\end{aligned} \tag{2}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{3}$$

Assume the following.

$$v6\_membered k4\_ordinal1 \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1\_pre\_topc X0) \Rightarrow ((v1\_funct\_1 (k3\_struct\_0 X0)) \wedge \\
& ((v1\_funct\_2 (k3\_struct\_0 X0) (u1\_struct\_0 X0) (u1\_struct\_0 X0)) \wedge \\
& \quad (v3\_tops\_2 (k3\_struct\_0 X0) X0 X0)))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1\_pre\_topc X0) \Rightarrow (\forall X1.(m1\_pre\_topc X1 X0) \Rightarrow \\
& \quad (l1\_pre\_topc X1))
\end{aligned} \tag{6}$$

Assume the following.

$$\forall X0.(l1\_rltopsp1 X0) \Rightarrow ((l1\_rlvect\_1 X0) \wedge (l1\_pre\_topc X0)) \tag{7}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(l1\_struct\_0\ X0) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_struct\_0\ X0)\Rightarrow&((v1\_funct\_1\ (k3\_struct\_0\ X0))\wedge \\ &((v1\_funct\_2\ (k3\_struct\_0\ X0)\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\wedge \\ &(m1\_subset\_1\ (k3\_struct\_0\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0 \\ &\quad X0)\ (u1\_struct\_0\ X0)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((l1\_pre\_topc\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\ (u1\_struct\_0\ X0))))\Rightarrow&((v1\_pre\_topc\ (k1\_pre\_topc\ X0\ X1))\wedge(m1\_pre\_topc \\ &(k1\_pre\_topc\ X0\ X1)\ X0)) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow((v5\_rltopsp1\ (k15\_euclid\ X0))\wedge \\ (l1\_rltopsp1\ (k15\_euclid\ X0))) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid \\ np\_2))))\Rightarrow&((v1\_topreal2\ X0)\Rightarrow((\neg v1\_xboole\_0\ X0)\wedge(v2\_compts\_1 \\ &\quad X0\ (k15\_euclid\ np\_2)))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.(v6\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow \\ (v7\_ordinal1\ X1)) \quad (13)$$

### Theorem 1

$$\begin{aligned} \forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid \\ np\_2))))\Rightarrow&((X0 = ReplSep\ (toset\ (\lambda X1 : \iota.m1\_subset\_1\ X1\ (u1\_struct\_0 \\ &\quad (k15\_euclid\ np\_2))))\ (\lambda X1 : \iota.\neg(\neg(k1\_real\_1\ np\_1 = k17\_euclid \\ &\quad X1)\wedge((r1\_xxreal\_0\ (k1\_real\_1\ np\_1)\ (k18\_euclid\ X1))\wedge(r1\_xxreal\_0 \\ &\quad (k18\_euclid\ X1)\ np\_1))))\wedge((\neg(k17\_euclid\ X1 = np\_1)\wedge((r1\_xxreal\_0 \\ &\quad (k1\_real\_1\ np\_1)\ (k18\_euclid\ X1))\wedge(r1\_xxreal\_0\ (k18\_euclid \\ &\quad X1)\ np\_1))))\wedge((\neg(k1\_real\_1\ np\_1 = k18\_euclid\ X1)\wedge((r1\_xxreal\_0 \\ &\quad (k1\_real\_1\ np\_1)\ (k17\_euclid\ X1))\wedge(r1\_xxreal\_0\ (k17\_euclid \\ &\quad X1)\ np\_1))))\wedge(\neg(np\_1 = k18\_euclid\ X1)\wedge((r1\_xxreal\_0\ (k1\_real\_1 \\ &\quad np\_1)\ (k17\_euclid\ X1))\wedge(r1\_xxreal\_0\ (k17\_euclid\ X1)\ np\_1)))))) \\ &(\lambda X1 : \iota.X1))\Rightarrow((v1\_topreal2\ X0)\wedge(v2\_compts\_1\ X0\ (k15\_euclid \\ &\quad np\_2)))) \end{aligned}$$