t13_sprect_2 (TMKMHduzE6w5uSh4v7VterNwuo6F1TFLefX)

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Let $v2\_compts\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15\_euclid : \iota \Rightarrow \iota$ be given. Let $np\_\_2 : \iota$ be given. 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 $k17\_euclid : \iota \Rightarrow \iota$ be given. Let $k8\_pscomp\_1 : \iota \Rightarrow \iota$ be given. Let $k16\_pscomp\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_pscomp\_1 : \iota \Rightarrow \iota$ be given. Let $k9\_pscomp\_1 : \iota \Rightarrow \iota$ be given. Let $k18\_euclid : \iota \Rightarrow \iota$ be given. Let $k7\_pscomp\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13\_pscomp\_1 : \iota \Rightarrow \iota$ be given. Let $k12\_pscomp\_1 : \iota \Rightarrow \iota$ be given. Let $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\neg(X0 \in X1) \wedge (v1\_xboole\_0\ X1) \tag{1}$$

Assume the following.

$$\begin{gathered}\forall X0.(m1\_subset\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))) \Rightarrow \\ (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ((v2\_compts\_1\ X1\ (k15\_euclid \\ np\_\_2)) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid \\ np\_\_2)))))) \Rightarrow ((X0 \in X1) \Rightarrow ((r1\_xxreal\_0\ (k6\_pscomp\_1\ X1)\ (k17\_euclid \\ X0)) \wedge ((r1\_xxreal\_0\ (k17\_euclid\ X0)\ (k8\_pscomp\_1\ X1)) \wedge ((r1\_xxreal\_0 \\ (k9\_pscomp\_1\ X1)\ (k18\_euclid\ X0)) \wedge (r1\_xxreal\_0\ (k18\_euclid\ X0) \\ (k7\_pscomp\_1\ X1)))))))\end{gathered} \tag{2}$$

Assume the following.

$$\begin{gathered}\forall X0.((\neg v1\_xboole\_0\ X0) \wedge ((v2\_compts\_1\ X0\ (k15\_euclid\ np\_\_2)) \wedge \\ (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))))) \Rightarrow \\ (k1\_rltopsp1\ (k15\_euclid\ np\_\_2)\ (k13\_pscomp\_1\ X0)\ (k12\_pscomp\_1 \\ X0) = ReplSep\ (toset\ (\lambda X1 : \iota.m1\_subset\_1\ X1\ (u1\_struct\_0\ (\\ k15\_euclid\ np\_\_2))))\ (\lambda X1 : \iota.(k17\_euclid\ X1 = k8\_pscomp\_1 \\ X0) \wedge ((r1\_xxreal\_0\ (k18\_euclid\ X1)\ (k7\_pscomp\_1\ X0)) \wedge (r1\_xxreal\_0 \\ (k9\_pscomp\_1\ X0)\ (k18\_euclid\ X1))))\ (\lambda X1 : \iota.X1))\end{gathered} \tag{3}$$

Assume the following.

$$\begin{gathered}\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1 \\ X0)) \Rightarrow (k9\_subset\_1\ X0\ X1\ X2 = k3\_xboole\_0\ X1\ X2)\end{gathered} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3\_xboole\_0\ X0\ X1)\Leftrightarrow(\forall X3.\ (X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(X3 \in X1))) \tag{5}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\Rightarrow(k16\_pscomp\_1\ X0 = k9\_subset\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))\ (k1\_rltopsp1\ (k15\_euclid\ np\_\_2)\ (k13\_pscomp\_1\ X0)\ (k12\_pscomp\_1\ X0))\ X0) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0\ X0\ X1 = k3\_xboole\_0\ X1\ X0 \tag{7}$$

Theorem 1

$$\forall X0.((v2\_compts\_1\ X0\ (k15\_euclid\ np\_\_2))\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))))\Rightarrow(\forall X1.\ (m1\_subset\_1\ X1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))\Rightarrow(((X1 \in X0)\wedge(k17\_euclid\ X1 = k8\_pscomp\_1\ X0))\Rightarrow(X1 \in k16\_pscomp\_1\ X0)))$$