

## t19\_sprect\_2

(TMSj1q7oKJeEM2H9hHucYFQEU3TyV8NTkrz)

October 27, 2020

Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k1\_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k17\_euclid : \iota \Rightarrow \iota$  be given. Let  $k6\_pscomp\_1 : \iota \Rightarrow \iota$  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  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v5\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v6\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v7\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v8\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v5\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $l1\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
 & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
 & (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
 & (((X2 \in k1\_rltopsp1 (k15\_euclid np\_2) X0 X1) \wedge (k17\_euclid X2 = k17\_euclid \\
 & X0)) \Rightarrow ((k17\_euclid X0 = k17\_euclid X1) \vee (X2 = X0))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
 & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
 & ((r1\_xxreal\_0 (k17\_euclid X0) (k17\_euclid X1)) \Rightarrow (k6\_pscomp\_1 \\
 & (k1\_rltopsp1 (k15\_euclid np\_2) X0 X1) = k17\_euclid X0)))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& (((r1\_xxreal\_0 (k17\_euclid X0) (k17\_euclid X1)) \wedge (X2 \in k1\_rltopsp1 \\
& (k15\_euclid np\_2) X0 X1)) \Rightarrow ((r1\_xxreal\_0 (k17\_euclid X0) (k17\_euclid \\
& X2)) \wedge (r1\_xxreal\_0 (k17\_euclid X2) (k17\_euclid X1))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& ((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\
& ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers))
\end{aligned} \tag{4}$$

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1 X0) \Rightarrow ((v2\_pre\_topc (k15\_euclid X0)) \wedge \\
& ((v13\_algstr\_0 (k15\_euclid X0)) \wedge ((v2\_rlvect\_1 (k15\_euclid X0)) \wedge \\
& ((v3\_rlvect\_1 (k15\_euclid X0)) \wedge ((v4\_rlvect\_1 (k15\_euclid X0)) \wedge \\
& ((v5\_rlvect\_1 (k15\_euclid X0)) \wedge ((v6\_rlvect\_1 (k15\_euclid X0)) \wedge \\
& ((v7\_rlvect\_1 (k15\_euclid X0)) \wedge ((v8\_rlvect\_1 (k15\_euclid X0)) \wedge \\
& (v5\_rltopsp1 (k15\_euclid X0))))))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1 X0) \Rightarrow ((\neg v2\_struct\_0 (k15\_euclid X0)) \wedge \\
& (v5\_rltopsp1 (k15\_euclid X0)))
\end{aligned} \tag{7}$$

Assume the following.

$$v3\_membered k1\_numbers \tag{8}$$

Assume the following.

$$\forall X0.(l1\_rltopsp1 X0) \Rightarrow ((l1\_rlvect\_1 X0) \wedge (l1\_pre\_topc X0)) \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
& (m1\_subset\_1 (k17\_euclid X0) k1\_numbers)
\end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1 X0) \Rightarrow ((v5\_rltopsp1 (k15\_euclid X0)) \wedge \\
& (l1\_rltopsp1 (k15\_euclid X0)))
\end{aligned} \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0)\wedge(v1\_xxreal\_0 X1))\Rightarrow( (r1\_xxreal\_0 X0 X1)\vee(r1\_xxreal\_0 X1 X0)) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge((v13\_algstr\_0 \\ X0)\wedge((v2\_rlvect\_1 X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge \\ ((v5\_rlvect\_1 X0)\wedge((v6\_rlvect\_1 X0)\wedge((v7\_rlvect\_1 X0)\wedge((v8\_rlvect\_1 \\ X0)\wedge(l1\_rlvect\_1 X0))))))))))\wedge((m1\_subset\_1 X1 (u1\_struct\_0 \\ X0))\wedge(m1\_subset\_1 X2 (u1\_struct\_0 X0))))\Rightarrow(k1\_rltopsp1 X0 X1 X2 = \\ k1\_rltopsp1 X0 X2 X1) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1)\Rightarrow(v7\_ordinal1 X0) \quad (14)$$

Assume the following.

$$\forall X0.(v3\_membered X0)\Rightarrow(v2\_membered X0) \quad (15)$$

Assume the following.

$$\forall X0.(v2\_membered X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow (v1\_xxreal\_0 X1)) \quad (16)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2)))\Rightarrow \\ (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2)))\Rightarrow \\ (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid np\_2)))\Rightarrow \\ (\neg(X1 \in k1\_rltopsp1 (k15\_euclid np\_2) X0 X2)\wedge((r1\_xxreal\_0 (k17\_euclid \\ X1) (k17\_euclid X0))\wedge((r1\_xxreal\_0 (k17\_euclid X1) (k17\_euclid \\ X2))\wedge((X0\neq X1)\wedge((X1\neq X2)\wedge(\neg(k17\_euclid X0 = k17\_euclid X1)\wedge(k17\_euclid \\ X2 = k17\_euclid X1)))))))))) \end{aligned}$$