

## t12\_sprect\_2

(TMRDWT9DpjcfQJruvmsebgHezxzqovrpWRC)

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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  $k6\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k14\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k18\_euclid : \iota \Rightarrow \iota$  be given. Let  $k1\_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k19\_euclid : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k9\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k7\_pscomp\_1 : \iota \Rightarrow \iota$  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. Let  $k1\_numbers : \iota$  be given. Let  $k11\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k10\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
 & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
 & (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\
 & (((k17\_euclid X0 = k17\_euclid X1) \wedge ((k17\_euclid X1 = k17\_euclid \\
 & X2) \wedge ((r1\_xxreal\_0 (k18\_euclid X0) (k18\_euclid X1)) \wedge (r1\_xxreal\_0 \\
 & (k18\_euclid X1) (k18\_euclid X2)))))) \Rightarrow (X1 \in k1\_rltopsp1 (k15\_euclid \\
 & np\_2) X0 X2)))
 \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1\_xboole\_0 X1) \tag{2}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((k17\_euclid \\
 (k19\_euclid X0 X1) = X0) \wedge (k18\_euclid (k19\_euclid X0 X1) = X1))) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (\forall X1.((\neg v1\_xboole\_0 X1) \wedge ((v2\_compts\_1 X1 (k15\_euclid \\ & np\_2)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\ & np\_2)))))) \Rightarrow ((X0 \in X1) \Rightarrow ((r1\_xxreal\_0 (k6\_pscomp\_1 X1) (k17\_euclid \\ & X0)) \wedge ((r1\_xxreal\_0 (k17\_euclid X0) (k8\_pscomp\_1 X1)) \wedge ((r1\_xxreal\_0 \\ & (k9\_pscomp\_1 X1) (k18\_euclid X0)) \wedge (r1\_xxreal\_0 (k18\_euclid X0) \\ & (k7\_pscomp\_1 X1))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & X0)) \Rightarrow (k9\_subset\_1 X0 X1 X2 = k3\_xboole\_0 X1 X2) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\ & np\_2)))) \Rightarrow (m1\_subset\_1 (k9\_pscomp\_1 X0) k1\_numbers) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\ & np\_2)))) \Rightarrow (m1\_subset\_1 (k7\_pscomp\_1 X0) k1\_numbers) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & (m1\_subset\_1 (k17\_euclid X0) k1\_numbers) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\ & np\_2)))) \Rightarrow (m1\_subset\_1 (k11\_pscomp\_1 X0) (u1\_struct\_0 (k15\_euclid \\ & np\_2))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\ & np\_2)))) \Rightarrow (m1\_subset\_1 (k10\_pscomp\_1 X0) (u1\_struct\_0 (k15\_euclid \\ & np\_2))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(X2 = k3\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. \\ & (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\ & np\_2)))) \Rightarrow (k14\_pscomp\_1 X0 = k9\_subset\_1 (u1\_struct\_0 (k15\_euclid \\ & np\_2)) (k1\_rltopsp1 (k15\_euclid np\_2) (k10\_pscomp\_1 X0) (k11\_pscomp\_1 \\ & X0)) X0) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (k11\_pscomp\_1 X0 = k19\_euclid (k6\_pscomp\_1 X0) (k7\_pscomp\_1 X0)) \quad (13)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (k10\_pscomp\_1 X0 = k19\_euclid (k6\_pscomp\_1 X0) (k9\_pscomp\_1 X0)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0 X0 X1 = k3\_xboole\_0 X1 X0 \quad (15)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (16)$$

**Theorem 1**

$$\forall X0.((v2\_compts\_1 X0 (k15\_euclid np\_2)) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow (((X1 \in X0) \wedge (k17\_euclid X1 = k6\_pscomp\_1 X0)) \Rightarrow (X1 \in k14\_pscomp\_1 X0))))$$