

## t34\_sprect\_3

(TMX97hkDx7fhB1NnNzNKiCrXr41KrH4EgVF)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_6 : \iota \Rightarrow \iota \Rightarrow o$  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  $v1\_topreal1 : \iota \Rightarrow o$  be given. Let  $v2\_topreal1 : \iota \Rightarrow o$  be given. Let  $v1\_goboard5 : \iota \Rightarrow o$  be given. Let  $v1\_sprect\_1 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_sprect\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_topreal1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_compts\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k13\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k10\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k12\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k11\_pscomp\_1 : \iota \Rightarrow \iota$  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  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_sppol\_1 : \iota \Rightarrow o$  be given. Let  $v2\_sppol\_1 : \iota \Rightarrow o$  be given. Let  $k8\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((v2\_compts\_1 X0 (k15\_euclid np\_2)) \wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2))))) \Rightarrow \\ & (k13\_pscomp\_1 (k3\_topreal1 np\_2 (k1\_sprect\_1 X0)) = k13\_pscomp\_1 \\ & X0) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((v2\_compts\_1 X0 (k15\_euclid np\_2)) \wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2))))) \Rightarrow \\ & (k10\_pscomp\_1 (k3\_topreal1 np\_2 (k1\_sprect\_1 X0)) = k10\_pscomp\_1 \\ & X0) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge ((v2\_compts\_1 X0 (k15\_euclid np\_2)) \wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2))))) \Rightarrow \\ & (k12\_pscomp\_1 (k3\_topreal1 np\_2 (k1\_sprect\_1 X0)) = k12\_pscomp\_1 \\ & X0) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((v2\_compts\_1 X0 (k15\_euclid np\_2)) \wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow \\ & (k11\_pscomp\_1 (k3\_topreal1 np\_2 (k1\_sprect\_1 X0)) = k11\_pscomp\_1 \\ & X0) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (6)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (7)$$

Assume the following.

$$v6\_membered k4\_ordinal1 \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7\_ordinal1 X0) \wedge (m1\_finseq\_1 X1 (u1\_struct\_0 \\ & (k15\_euclid X0)))) \Rightarrow (m1\_subset\_1 (k3\_topreal1 X0 X1) (k1\_zfmisc\_1 \\ & (u1\_struct\_0 (k15\_euclid X0)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m2\_finseq\_1 X0 (u1\_struct\_0 (k15\_euclid np\_2))) \Rightarrow \\ & ((v1\_sprect\_1 X0) \Leftrightarrow (\exists X1. ((\neg v1\_xboole\_0 X1) \wedge ((v2\_compts\_1 \\ & X1 (k15\_euclid np\_2)) \wedge ((\neg v1\_sppol\_1 X1) \wedge ((\neg v2\_sppol\_1 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))))))))) \wedge \\ & (X0 = k1\_sprect\_1 X1)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid \\ & np\_2)))) \Rightarrow (k1\_sprect\_1 X0 = k8\_finseq\_1 (u1\_struct\_0 (k15\_euclid \\ & np\_2)) (k3\_finseq\_4 (u1\_struct\_0 (k15\_euclid np\_2)) (k11\_pscomp\_1 \\ & X0) (k12\_pscomp\_1 X0) (k13\_pscomp\_1 X0)) (k2\_finseq\_4 (u1\_struct\_0 \\ & (k15\_euclid np\_2)) (k10\_pscomp\_1 X0) (k11\_pscomp\_1 X0))) \end{aligned} \quad (11)$$

Assume the following.

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

**Theorem 1**

$$\begin{aligned} \forall X0. (&(\neg v1\_xboole\_0 X0) \wedge ((v1\_finseq\_6 X0 (u1\_struct\_0 \\ &(k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 X0) \wedge \\ &(v1\_goboard5 X0) \wedge ((v1\_sprect\_1 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\ &(k15\_euclid np\_2)))))))))) \Rightarrow (k1\_sprect\_1 (k3\_topreal1 np\_2 \\ &X0) = X0) \end{aligned}$$