

# t33\_pscomp\_1 (TMdt- PuV4VvMVR1b7KgFYfo6m8GVFv1KdvZj)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. 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  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k18\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k19\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k10\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k11\_pscomp\_1 : \iota \Rightarrow \iota$  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  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k19\_euclid : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k9\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k7\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k6\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k14\_pscomp\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_pscomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_pscomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_pscomp\_1 : \iota$  be given. Let  $k1\_pscomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\
& (k15\_euclid X0))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 ( \\
& k15\_euclid X0))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 (k15\_euclid \\
& X0))) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 (k15\_euclid X0))) \Rightarrow \\
& (((X3 \in k1\_rltopsp1 (k15\_euclid X0) X1 X2) \wedge (X4 \in k1\_rltopsp1 (k15\_euclid \\
& X0) X1 X2)) \Rightarrow (r1\_tarski (k1\_rltopsp1 (k15\_euclid X0) X3 X4) (k1\_rltopsp1 \\
& (k15\_euclid X0) X1 X2))))))
\end{aligned} \tag{2}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((v2\_compts\_1 X0 (k15\_euclid np\_2)) \wedge \\ (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow \\ ((r1\_xxreal\_0 (k18\_euclid (k10\_pscomp\_1 X0)) (k18\_euclid (k18\_pscomp\_1 \\ X0))) \wedge ((r1\_xxreal\_0 (k18\_euclid (k10\_pscomp\_1 X0)) (k18\_euclid \\ (k19\_pscomp\_1 X0))) \wedge ((r1\_xxreal\_0 (k18\_euclid (k10\_pscomp\_1 \\ X0)) (k18\_euclid (k11\_pscomp\_1 X0))) \wedge ((r1\_xxreal\_0 (k18\_euclid \\ (k18\_pscomp\_1 X0)) (k18\_euclid (k19\_pscomp\_1 X0))) \wedge ((r1\_xxreal\_0 \\ (k18\_euclid (k18\_pscomp\_1 X0)) (k18\_euclid (k11\_pscomp\_1 X0))) \wedge \\ (r1\_xxreal\_0 (k18\_euclid (k19\_pscomp\_1 X0)) (k18\_euclid (k11\_pscomp\_1 \\ X0)))))))))) \end{aligned} \quad (4)$$

Assume the following.

$$((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\ ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \quad (5)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (m1\_subset\_1 (k9\_pscomp\_1 X0) k1\_numbers) \quad (7)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (m1\_subset\_1 (k7\_pscomp\_1 X0) k1\_numbers) \quad (8)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (m1\_subset\_1 (k6\_pscomp\_1 X0) k1\_numbers) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \Rightarrow (m1\_subset\_1 (k19\_euclid X0 X1) (u1\_struct\_0 (k15\_euclid np\_2))) \quad (10)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (m1\_subset\_1 (k14\_pscomp\_1 X0) (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \quad (11)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (k7\_pscomp\_1 X0 = k2\_pscomp\_1 (k1\_pre\_topc (k15\_euclid np\_2) X0) (k3\_pscomp\_1 (k15\_euclid np\_2) k5\_pscomp\_1 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (k19\_pscomp\_1 X0 = k19\_euclid (k6\_pscomp\_1 X0) (k2\_pscomp\_1 (k1\_pre\_topc (k15\_euclid np\_2) (k14\_pscomp\_1 X0)) (k3\_pscomp\_1 (k15\_euclid np\_2) k5\_pscomp\_1 (k14\_pscomp\_1 X0)))) \quad (13)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (k18\_pscomp\_1 X0 = k19\_euclid (k6\_pscomp\_1 X0) (k1\_pscomp\_1 (k1\_pre\_topc (k15\_euclid np\_2) (k14\_pscomp\_1 X0)) (k3\_pscomp\_1 (k15\_euclid np\_2) k5\_pscomp\_1 (k14\_pscomp\_1 X0)))) \quad (14)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (k11\_pscomp\_1 X0 = k19\_euclid (k6\_pscomp\_1 X0) (k7\_pscomp\_1 X0)) \quad (15)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (k10\_pscomp\_1 X0 = k19\_euclid (k6\_pscomp\_1 X0) (k9\_pscomp\_1 X0)) \quad (16)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))) \Rightarrow (k9\_pscomp\_1 X0 = k1\_pscomp\_1 (k1\_pre\_topc (k15\_euclid np\_2) X0) (k3\_pscomp\_1 (k15\_euclid np\_2) k5\_pscomp\_1 X0)) \quad (17)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (18)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (19)$$

**Theorem 1**

$$\forall X0.((\neg v1\_xboole\_0 X0) \wedge ((v2\_compts\_1 X0 (k15\_euclid np\_2)) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (u1\_struct\_0 (k15\_euclid np\_2)))))) \Rightarrow (r1\_tarski (k1\_rltopsp1 (k15\_euclid np\_2) (k18\_pscomp\_1 X0) (k19\_pscomp\_1 X0)) (k1\_rltopsp1 (k15\_euclid np\_2) (k10\_pscomp\_1 X0) (k11\_pscomp\_1 X0)))$$