

## t33\_c0sp1

(TMWHppNdeM6uFofhie4vLHawyNvhbfCvFaq)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v4\_normsp\_0 : \iota \Rightarrow o$  be given. Let  $k11\_c0sp1 : \iota \Rightarrow \iota$  be given. Let  $v3\_normsp\_0 : \iota \Rightarrow o$  be given. Let  $v2\_normsp\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_normsp\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k18\_complex1 : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l2\_normsp\_0 : \iota \Rightarrow o$  be given. Let  $l1\_normsp\_0 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_normsp\_1 : \iota \Rightarrow o$  be given. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l1\_lopban\_2 : \iota \Rightarrow o$  be given. Let  $l1\_funcsdom : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 k1\_numbers) \Rightarrow \\
 & \quad (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 (k11\_c0sp1 X0))) \Rightarrow (\forall X3. \\
 & \quad (m1\_subset\_1 X3 (u1\_struct\_0 (k11\_c0sp1 X0))) \Rightarrow (((k1\_normsp\_0 \\
 & (k11\_c0sp1 X0) X2 = k6\_numbers) \Rightarrow (X2 = k4\_struct\_0 (k11\_c0sp1 X0))) \wedge \\
 & \quad (((X2 = k4\_struct\_0 (k11\_c0sp1 X0)) \Rightarrow (k1\_normsp\_0 (k11\_c0sp1 X0) \\
 & \quad X2 = k6\_numbers)) \wedge ((k1\_normsp\_0 (k11\_c0sp1 X0) (k1\_rlvect\_1 ( \\
 & \quad k11\_c0sp1 X0) X2 X1) = k8\_real\_1 (k18\_complex1 X1) (k1\_normsp\_0 \\
 & \quad (k11\_c0sp1 X0) X2)) \wedge (r1\_xxreal\_0 (k1\_normsp\_0 (k11\_c0sp1 X0) \\
 & \quad (k1\_algstr\_0 (k11\_c0sp1 X0) X2 X3)) (k7\_real\_1 (k1\_normsp\_0 (k11\_c0sp1 \\
 & \quad X0) X2) (k1\_normsp\_0 (k11\_c0sp1 X0) X3))))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\
 & ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers))
 \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\neg v2\_struct\_0 (k11\_c0sp1 X0)) \tag{3}$$

Assume the following.

$$\forall X0.(l2\_normsp\_0 X0) \Rightarrow ((l1\_normsp\_0 X0) \wedge (l2\_struct\_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0.(l1\_normsp\_1 X0) \Rightarrow ((l1\_rlvect\_1 X0) \wedge (l2\_normsp\_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l1\_lopban\_2 X0) \Rightarrow ((l1\_funcsdom X0) \wedge (l1\_normsp\_1 X0)) \quad (6)$$

Assume the following.

$$\forall X0.(l2\_struct\_0 X0) \Rightarrow (m1\_subset\_1 (k4\_struct\_0 X0) (u1\_struct\_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (l1\_lopban\_2 (k11\_c0sp1 X0)) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge (l2\_normsp\_0 X0)) \Rightarrow ((v4\_normsp\_0 X0) \Leftrightarrow (k1\_normsp\_0 X0 (k4\_struct\_0 X0) = k6\_numbers)) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge (l2\_normsp\_0 X0)) \Rightarrow ((v3\_normsp\_0 X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow ((k1\_normsp\_0 X0 X1 = k6\_numbers) \Rightarrow (X1 = k4\_struct\_0 X0)))) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_normsp\_1 X0)) \Rightarrow & ((v2\_normsp\_1 X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\ & k1\_numbers) \Rightarrow ((k1\_normsp\_0 X0 (k1\_rlvect\_1 X0 X1 X3) = k8\_real\_1 \\ & (k18\_complex1 X3) (k1\_normsp\_0 X0 X1)) \wedge (r1\_xreal\_0 (k1\_normsp\_0 \\ & X0 (k1\_algstr\_0 X0 X1 X2)) (k7\_real\_1 (k1\_normsp\_0 X0 X1) (k1\_normsp\_0 \\ & X0 X2)))))))))) \quad (11) \end{aligned}$$

**Theorem 1**

$$\forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow ((v4\_normsp\_0 (k11\_c0sp1 X0)) \wedge ((v3\_normsp\_0 (k11\_c0sp1 X0)) \wedge (v2\_normsp\_1 (k11\_c0sp1 X0))))$$