

t5\_mfold\_1 (TM-  
SiRmv6Qk9M8BXHSb37qedpKu9mcVacY7K)

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Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. 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  $k1\_xboole\_0 : \iota$  be given. Let  $k2\_mfold\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k12\_euclid : \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k1\_mfold\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_topreal9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  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  $k4\_ordinal1 : \iota$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l1\_rltopsp1 : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v5\_rltopsp1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0 \\ (k15\_euclid\ X0))) \Rightarrow (\forall X2.(v1\_xreal\_0\ X2) \Rightarrow (u1\_struct\_0 \\ (k1\_mfold\_1\ X0\ X1\ X2) = k1\_topreal9\ X0\ X1\ X2))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ X1) \Rightarrow ((v1\_xboole\_0\ X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1\ X0\ X1) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1\ X0\ k5\_numbers) \Rightarrow (\forall X1.(v1\_xreal\_0 \\ X1) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ (k15\_euclid\ X0))) \Rightarrow \\ (\neg(X2 \in k1\_topreal9\ X0\ (k4\_struct\_0\ (k15\_euclid\ X0))\ X1) \wedge (r1\_xxreal\_0 \\ X1\ (k12\_euclid\ X2)))))) \end{aligned} \quad (4)$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v7\_ordinal1 \ X0) \wedge ((m1\_subset\_1 \\ & X1 \ (u1\_struct\_0 \ (k15\_euclid \ X0))) \wedge ((v1\_xreal\_0 \ X2) \wedge (v2\_xreal\_0 \\ & X2)))) \Rightarrow (\neg v1\_xboole\_0 \ (k1\_topreal9 \ X0 \ X1 \ X2)) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. (l2\_algstr\_0 \ X0) \Rightarrow ((l2\_struct\_0 \ X0) \wedge (l1\_algstr\_0 \ X0)) \quad (8)$$

Assume the following.

$$\forall X0. (l1\_rlvect\_1 \ X0) \Rightarrow (l2\_algstr\_0 \ X0) \quad (9)$$

Assume the following.

$$\forall X0. (l1\_rltopsp1 \ X0) \Rightarrow ((l1\_rlvect\_1 \ X0) \wedge (l1\_pre\_topc \ X0)) \quad (10)$$

Assume the following.

$$\forall X0. (l2\_struct\_0 \ X0) \Rightarrow (m1\_subset\_1 \ (k4\_struct\_0 \ X0) \ (u1\_struct\_0 \ X0)) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7\_ordinal1 \ X0) \Rightarrow ((v5\_rltopsp1 \ (k15\_euclid \ X0)) \wedge \\ & (l1\_rltopsp1 \ (k15\_euclid \ X0))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7\_ordinal1 \ X0) \Rightarrow (k2\_mfold\_1 \ X0 = k1\_mfold\_1 \ X0 \ (k4\_struct\_0 \\ & (k15\_euclid \ X0)) \ np\_1) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 \ X0) \Leftrightarrow (X0 \in k4\_ordinal1) \quad (14)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 \ X0 \ k1\_numbers) \Rightarrow (v1\_xreal\_0 \ X0) \quad (15)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. (v7\_ordinal1 \ X0) \Rightarrow (\forall X1. (m1\_subset\_1 \ X1 \ (u1\_struct\_0 \\ & (k15\_euclid \ X0))) \Rightarrow (\neg (X0 \neq k1\_xboole\_0) \wedge ((m1\_subset\_1 \ X1 \ (u1\_struct\_0 \\ & (k2\_mfold\_1 \ X0))) \wedge (r1\_xreal\_0 \ np\_1 \ (k12\_euclid \ X1)))))) \end{aligned}$$