

## t50\_rpr\_1

(TMHYM3aZefBeYkvBwQ14wTWBEqXfrJEDJNb)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_rpr\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_rpr\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k3\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k1\_xboole\_0 : \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (r1\_xboole\_0 X0 X1) \Leftrightarrow (k4\_xboole\_0 X0 X1 = X0) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge (v1\_finset\_1 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 \\ & (k1\_zfmisc\_1 X0)) \Rightarrow (\neg(\neg r1\_xxreal\_0 (k1\_rpr\_1 X0 X2) k6\_numbers) \wedge \\ & ((\neg r1\_xxreal\_0 np\_1 (k1\_rpr\_1 X0 X2)) \wedge (k1\_rpr\_1 X0 X1 \neq k7\_real\_1 \\ & (k8\_real\_1 (k2\_rpr\_1 X0 X2 X1) (k1\_rpr\_1 X0 X2)) (k8\_real\_1 (k2\_rpr\_1 \\ & X0 (k3\_subset\_1 X0 X2) X1) (k1\_rpr\_1 X0 (k3\_subset\_1 X0 X2)))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. (v1\_xreal\_0 X0) \Rightarrow (\forall X1. (v1\_xreal\_0 X1) \Rightarrow (\neg(\neg r1\_xxreal\_0 X0 k6\_numbers) \wedge (r1\_xxreal\_0 X1 (k6\_xcmplx\_0 X1 X0)))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. k4\_xboole\_0 (k2\_xboole\_0 X0 X1) X1 = k4\_xboole\_0 X0 X1 \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0) \wedge (v1\_finset\_1 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow ((k1\_rpr\_1 X0 X1 = k9\_real\_1 \\ & np\_1 (k1\_rpr\_1 X0 (k3\_subset\_1 X0 X1))) \wedge (k1\_rpr\_1 X0 (k3\_subset\_1 \\ & X0 X1) = k9\_real\_1 np\_1 (k1\_rpr\_1 X0 X1)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((m1\_subset\_1 X0 k1\_numbers) \wedge (v1\_xreal\_0 \\ & X1)) \Rightarrow (k9\_real\_1 X0 X1 = k6\_xcmplx\_0 X0 X1) \end{aligned} \quad (7)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & X0)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0))) \Rightarrow (k4\_subset\_1 X0 X1 X2 = \\ & k2\_xboole\_0 X1 X2) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (k3\_subset\_1 \\ & X0 (k3\_subset\_1 X0 X1) = X1) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_finset\_1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & X0))) \Rightarrow (m1\_subset\_1 (k1\_rpr\_1 X0 X1) k1\_numbers) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (k3\_subset\_1 \\ & X0 X1 = k4\_xboole\_0 X0 X1) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (13)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge (v1\_finset\_1 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 \\ & (k1\_zfmisc\_1 X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (k1\_zfmisc\_1 X0)) \Rightarrow \\ & (((k4\_subset\_1 X0 X2 X3 = X0) \wedge (r1\_xboole\_0 X2 X3)) \Rightarrow ((r1\_xxreal\_0 \\ & (k1\_rpr\_1 X0 X2) k6\_numbers) \vee ((r1\_xxreal\_0 (k1\_rpr\_1 X0 X3) k6\_numbers) \vee \\ & (k1\_rpr\_1 X0 X1 = k7\_real\_1 (k8\_real\_1 (k2\_rpr\_1 X0 X2 X1) (k1\_rpr\_1 \\ & X0 X2)) (k8\_real\_1 (k2\_rpr\_1 X0 X3 X1) (k1\_rpr\_1 X0 X3)))))))))) \end{aligned}$$