

t40\_xxreal\_2

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Let  $v2\_membered : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_xxreal\_2 : \iota \Rightarrow \iota$  be given. Let  $k1\_xxreal\_2 : \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $m2\_xxreal\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_xxreal\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. ((\neg v1\_xboole\_0 X0) \wedge (v2\_membered X0)) \Rightarrow (\exists X1. (v1\_xxreal\_0 X1) \wedge (X1 \in X0)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \neg (v1\_xboole\_0 X0) \wedge ((X0 \neq X1) \wedge (v1\_xboole\_0 X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1\_subset\_1 X1 (k1\_zfmisc\_1 X2)) \wedge (v1\_xboole\_0 X2)) \quad (3)$$

Assume the following.

$$\forall X0. (v1\_xxreal\_0 X0) \Rightarrow (\forall X1. (v2\_membered X1) \Rightarrow ((X0 \in X1) \Rightarrow (r1\_xxreal\_0 X0 (k1\_xxreal\_2 X1)))) \quad (4)$$

Assume the following.

$$\forall X0. (v1\_xxreal\_0 X0) \Rightarrow (\forall X1. (v2\_membered X1) \Rightarrow ((X0 \in X1) \Rightarrow (r1\_xxreal\_0 (k2\_xxreal\_2 X1) X0))) \quad (5)$$

Assume the following.

$$\forall X0. (v1\_xxreal\_0 X0) \Rightarrow (\forall X1. (v1\_xxreal\_0 X1) \Rightarrow (\forall X2. (v1\_xxreal\_0 X2) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X2)) \Rightarrow (r1\_xxreal\_0 X0 X2)))) \quad (6)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X0)) \Rightarrow (X0 = X1)) \quad (7)$$

Assume the following.

$$\exists X0.(\neg v1\_xboole\_0 X0) \wedge (v7\_ordinal1 X0) \quad (8)$$

Assume the following.

$$\forall X0.\exists X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \wedge (v1\_xboole\_0 X1) \quad (9)$$

Assume the following.

$$\exists X0.v1\_xboole\_0 X0 \quad (10)$$

Assume the following.

$$\forall X0.(v2\_membered X0) \Rightarrow (v1\_xxreal\_0 (k2\_xxreal\_2 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(v2\_membered X0) \Rightarrow (v1\_xxreal\_0 (k1\_xxreal\_2 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(v2\_membered X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow ((X1 = k2\_xxreal\_2 X0) \Leftrightarrow ((m2\_xxreal\_2 X1 X0) \wedge (\forall X2.(m2\_xxreal\_2 X2 X0) \Rightarrow (r1\_xxreal\_0 X2 X1)))))) \quad (13)$$

Assume the following.

$$\forall X0.(v2\_membered X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow ((X1 = k1\_xxreal\_2 X0) \Leftrightarrow ((m1\_xxreal\_2 X1 X0) \wedge (\forall X2.(m1\_xxreal\_2 X2 X0) \Rightarrow (r1\_xxreal\_0 X1 X2)))))) \quad (14)$$

Assume the following.

$$\forall X0.(v2\_membered X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow ((m2\_xxreal\_2 X1 X0) \Leftrightarrow (\forall X2.(v1\_xxreal\_0 X2) \Rightarrow ((X2 \in X0) \Rightarrow (r1\_xxreal\_0 X1 X2)))))) \quad (15)$$

Assume the following.

$$\forall X0.(v2\_membered X0) \Leftrightarrow (\forall X1.(X1 \in X0) \Rightarrow (v1\_xxreal\_0 X1)) \quad (16)$$

Assume the following.

$$\forall X0.(v2\_membered X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow ((m1\_xxreal\_2 X1 X0) \Leftrightarrow (\forall X2.(v1\_xxreal\_0 X2) \Rightarrow ((X2 \in X0) \Rightarrow (r1\_xxreal\_0 X2 X1)))))) \quad (17)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Leftrightarrow (\forall X1. \neg X1 \in X0) \quad (18)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow (r1\_xxreal\_0 X0 X1) \vee (r1\_xxreal\_0 X1 X0) \quad (19)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (v7\_ordinal1 X0) \quad (20)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (21)$$

**Theorem 1**

$$\forall X0.(v2\_membered X0) \Rightarrow ((\neg v1\_xboole\_0 X0) \Leftrightarrow (r1\_xxreal\_0 (k2\_xxreal\_2 X0) (k1\_xxreal\_2 X0)))$$