

## t16\_mesfunc7

(TMbdK1kovro6KKVXcHaZC1QaUDAZUCbTJcW)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_numbers : \iota$  be given. Let  $v5\_xxreal\_2 : \iota \Rightarrow o$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xxreal\_0 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_xxreal\_3 : \iota \Rightarrow \iota$  be given. Let  $k2\_xxreal\_0 : \iota$  be given. Let  $k2\_supinf\_2 : \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k3\_extreal1 : \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_supinf\_1 : \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k12\_supinf\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Let  $m1\_xxreal\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_xxreal\_2 : \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_xxreal\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_xxreal\_2 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\neg(X0 \in k1\_numbers) \wedge (r1\_xxreal\_0 k1\_xxreal\_0 X0)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((X0 \in k9\_xtuple\_0 X1) \Rightarrow (k1\_funct\_1 X1 X0 \in k10\_xtuple\_0 X1)) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2.(v1\_xxreal\_0 X2) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X2)) \Rightarrow (r1\_xxreal\_0 X0 X2)))) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (((X0 = k1\_xxreal\_0) \Rightarrow (k2\_xxreal\_3 X0 = k2\_xxreal\_0)) \wedge (((k2\_xxreal\_3 X0 = k2\_xxreal\_0) \Rightarrow (X0 = k1\_xxreal\_0)) \wedge (((X0 = k2\_xxreal\_0) \Rightarrow (k2\_xxreal\_3 X0 = k1\_xxreal\_0)) \wedge ((k2\_xxreal\_3 X0 = k1\_xxreal\_0) \Rightarrow (X0 = k2\_xxreal\_0)))))) \quad (4)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\neg(X0 \in k1\_numbers) \wedge (r1\_xxreal\_0 X0 k2\_xxreal\_0)) \quad (5)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k7\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 X1 k7\_numbers) \Rightarrow (\neg(\neg r1\_xxreal\_0 X1 (k2\_supinf\_2 X0)) \wedge ((\neg r1\_xxreal\_0 X0 X1) \wedge (\neg(\neg r1\_xxreal\_0 X0 k6\_numbers) \wedge (\neg r1\_xxreal\_0 X0 (k3\_extreal1 X1)))))) \quad (6)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k7\_numbers) \Rightarrow (k2\_supinf\_2 X0 = k2\_xxreal\_3 X0) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1) \wedge (v5\_relat\_1 X1 X0)) \Rightarrow (k2\_relset\_1 X0 X1 = k10\_xtuple\_0 X1) \quad (8)$$

Assume the following.

$$k1\_supinf\_1 = k1\_xxreal\_0 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v2\_valued\_0 X0))) \Rightarrow (k12\_supinf\_2 X0 X1 = k1\_funct\_1 X0 X1) \quad (11)$$

Assume the following.

$$v1\_xxreal\_0 k2\_xxreal\_0 \quad (12)$$

Assume the following.

$$v2\_membered k7\_numbers \quad (13)$$

Assume the following.

$$v1\_xxreal\_0 k1\_xxreal\_0 \quad (14)$$

Assume the following.

$$\forall X0.(v2\_membered X0) \Rightarrow (\forall X1.(m1\_xxreal\_2 X1 X0) \Rightarrow (v1\_xxreal\_0 X1)) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v5\_relat\_1 X1 X0))\Rightarrow(m1\_subset\_1 (k2\_relset\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (16)$$

Assume the following.

$$m1\_subset\_1 k1\_supinf\_1 k7\_numbers \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v2\_valued\_0 X0)))\Rightarrow(m1\_subset\_1 (k12\_supinf\_2 X0 X1) k7\_numbers) \quad (18)$$

Assume the following.

$$\forall X0.(v2\_membered X0)\Rightarrow((v3\_xxreal\_2 X0)\Leftrightarrow(\exists X1.(v1\_xreal\_0 X1)\wedge(m2\_xxreal\_2 X1 X0))) \quad (19)$$

Assume the following.

$$\forall X0.(v2\_membered X0)\Rightarrow(\forall X1.(v1\_xreal\_0 X1)\Rightarrow((m2\_xxreal\_2 X1 X0)\Leftrightarrow(\forall X2.(v1\_xreal\_0 X2)\Rightarrow((X2 \in X0)\Rightarrow(r1\_xxreal\_0 X1 X2)))))) \quad (20)$$

Assume the following.

$$\forall X0.(v2\_membered X0)\Rightarrow(\forall X1.(v1\_xreal\_0 X1)\Rightarrow((m1\_xxreal\_2 X1 X0)\Leftrightarrow(\forall X2.(v1\_xreal\_0 X2)\Rightarrow((X2 \in X0)\Rightarrow(r1\_xxreal\_0 X2 X1)))))) \quad (21)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Leftrightarrow(X0 \in k1\_numbers) \quad (22)$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((v1\_funct\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k7\_numbers))))\Rightarrow((v3\_valued\_0 X1)\Leftrightarrow(\forall X2.(m1\_subset\_1 X2 X0)\Rightarrow(\neg(X2 \in k1\_relset\_1 X0 X1)\wedge(r1\_xxreal\_0 k1\_supinf\_1 (k3\_extreal1 (k12\_supinf\_2 X1 X2))))))) \quad (23)$$

Assume the following.

$$\forall X0.(v2\_membered X0)\Rightarrow((v5\_xxreal\_2 X0)\Leftrightarrow((v3\_xxreal\_2 X0)\wedge(v4\_xxreal\_2 X0))) \quad (24)$$

Assume the following.

$$\forall X0.(v2\_membered X0)\Rightarrow((v4\_xxreal\_2 X0)\Leftrightarrow(\exists X1.(v1\_xreal\_0 X1)\wedge(m1\_xxreal\_2 X1 X0))) \quad (25)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 k7\_numbers)) \Rightarrow (v2\_membered X0) \quad (26)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (27)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v4\_relat\_1 X2 X0) \wedge (v5\_relat\_1 X2 X1)) \quad (28)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k7\_numbers) \Rightarrow (v1\_xxreal\_0 X0) \quad (29)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \quad (30)$$

Assume the following.

$$\forall X0.\forall X1.(v2\_membered X1) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v2\_valued\_0 X2)) \quad (31)$$

**Theorem 1**

$$\forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k7\_numbers)))) \Rightarrow (v5\_xxreal\_2 (k2\_relset\_1 k7\_numbers X1) \Rightarrow (v3\_valued\_0 X1)))$$