

t11_mesfunc5

(TMP7y29mU5Fb1rcy3LZN87Mg52as5ut7h43)

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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 $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_supinf_1 : \iota$ be given. Let $k12_supinf_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_mesfunc5 : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_xxreal_0 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v2_valued_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow ((r1_xxreal_0 k1_xxreal_0 X0) \Rightarrow (X0 = k1_xxreal_0)) \quad (1)$$

Assume the following.

$$k1_supinf_1 = k1_xxreal_0 \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v2_valued_0 X0))) \Rightarrow (k12_supinf_2 X0 X1 = k1_funct_1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v2_valued_0 X0))) \Rightarrow (v1_xxreal_0 (k1_funct_1 X0 X1)) \quad (5)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k7_numbers)))) \Rightarrow (v4_mesfunc5 X1) \Leftrightarrow (\forall X2.\neg r1_xxreal_0 k1_supinf_1 (k12_supinf_2 X1 X2)))) \quad (6)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow ((v4_mesfunc5 X0) \Leftrightarrow (\neg k1_supinf_1 \in k10_xtuple_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.(X1 = k10_xtuple_0 X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(X3 \in k9_xtuple_0 X0) \wedge (X2 = k1_funct_1 X0 X3)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \quad (9)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v5_relat_1 X0 k7_numbers)) \Rightarrow ((v1_relat_1 X0) \wedge (v2_valued_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (11)$$

Theorem 1

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k7_numbers)))) \Rightarrow (\forall X2.(\neg (X2 \in k1_relset_1 X0 X1) \wedge (r1_xreal_0 k1_supinf_1 (k12_supinf_2 X1 X2))) \Leftrightarrow (v4_mesfunc5 X1)))$$