

t30_valued_1 (TMGn-
rPa6XVXiPHM7RXBCJCWwqRmD1mPJMT)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k62_valued_1 : \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_xxreal_2 : \iota \Rightarrow \iota$ be given. Let $v2_xxreal_2 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v4_membered : \iota \Rightarrow o$ be given. Let $v1_xxreal_2 : \iota \Rightarrow o$ be given. Let $v5_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. ((\neg v1_xboole_0 X0) \wedge (v1_relat_1 X0)) \Rightarrow (\neg v1_xboole_0 (k9_xtuple_0 X0)) \quad (2)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_finset_1 X0)) \Rightarrow (v1_finset_1 (k9_xtuple_0 X0)) \quad (3)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v4_relat_1 X0 k5_numbers)) \Rightarrow (v6_membered (k9_xtuple_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0. (v2_membered X0) \Rightarrow (v1_xxreal_0 (k1_xxreal_2 X0)) \quad (5)$$

Assume the following.

$$\forall X0. ((v2_membered X0) \wedge (v2_xxreal_2 X0)) \Rightarrow (\forall X1. (v1_xxreal_0 X1) \Rightarrow ((X1 = k1_xxreal_2 X0) \Leftrightarrow ((X1 \in X0) \wedge (\forall X2. (v1_xxreal_0 X2) \Rightarrow ((X2 \in X0) \Rightarrow (r1_xxreal_0 X2 X1)))))) \quad (6)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v1_funct_1 X0) \wedge ((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)))))) \Rightarrow (k62_valued_1 X0 = k1_xxreal_2 (k1_relset_1 \ k5_numbers \ X0)) \quad (7)$$

Assume the following.

$$\forall X0.(v3_membered \ X0) \Rightarrow (v2_membered \ X0) \quad (8)$$

Assume the following.

$$\forall X0.(v4_membered \ X0) \Rightarrow (v3_membered \ X0) \quad (9)$$

Assume the following.

$$\forall X0.((v2_membered \ X0) \wedge ((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0))) \Rightarrow ((v2_membered \ X0) \wedge ((\neg v1_xboole_0 X0) \wedge ((v1_xxreal_2 X0) \wedge (v2_xxreal_2 X0)))) \quad (10)$$

Assume the following.

$$\forall X0.(v5_membered \ X0) \Rightarrow (v4_membered \ X0) \quad (11)$$

Assume the following.

$$\forall X0.(v6_membered \ X0) \Rightarrow (v5_membered \ X0) \quad (12)$$

Theorem 1

$$\forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v1_funct_1 X0) \wedge ((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)))))) \Rightarrow (k62_valued_1 X0 \in k1_relset_1 \ k5_numbers \ X0)$$