

t30_rpr_1
(TMKrDzjq9wVrCztWsUjuu82D9jYpUVbpoNj)

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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 $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_rpr_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.(\neg(\neg r1_xboole_0 X0 (k2_xboole_0 X1 X2)) \wedge ((r1_xboole_0 X0 X1) \wedge (r1_xboole_0 X0 X2))) \wedge (\neg(\neg(r1_xboole_0 X0 X1) \wedge (r1_xboole_0 X0 X2)) \wedge (r1_xboole_0 X0 (k2_xboole_0 X1 X2))) \quad (1)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow ((r1_xboole_0 X1 X2) \Rightarrow (k1_rpr_1 X0 (k4_subset_1 X0 X1 X2) = k7_real_1 (k1_rpr_1 X0 X1) (k1_rpr_1 X0 X2)))))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(r1_xboole_0 X0 X1) \Rightarrow (r1_xboole_0 X1 X0) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (k4_subset_1 X0 X1 X2 = k2_xboole_0 X1 X2) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (m1_subset_1 (k4_subset_1 X0 X1 X2) (k1_zfmisc_1 X0)) \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge (v1_finset_1 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ & (k1_zfmisc_1 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 X0)) \Rightarrow \\ & ((r1_xboole_0 X1 X2) \wedge ((r1_xboole_0 X1 X3) \wedge (r1_xboole_0 X2 X3))) \Rightarrow \\ & (k1_rpr_1 X0 (k4_subset_1 X0 (k4_subset_1 X0 X1 X2) X3) = k7_real_1 \\ & (k7_real_1 (k1_rpr_1 X0 X1) (k1_rpr_1 X0 X2)) (k1_rpr_1 X0 X3)))))) \end{aligned}$$