

t4_finsub_1
(TMUtQB4UtmkKwshACSjNZVQcMwNg5GfgMWD)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_finsub_1 : \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. k2_xboole_0 X0 X1 = k5_xboole_0 X0 (k4_xboole_0 X1 X0) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. (v4_finsub_1 X0) \Leftrightarrow (\forall X1. \forall X2. ((X1 \in X0) \wedge (X2 \in X0)) \Rightarrow ((k2_xboole_0 X1 X2 \in X0) \wedge (k6_subset_1 X1 X2 \in X0))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (4)$$

Theorem 1

$$\forall X0. (\neg v1_xboole_0 X0) \Rightarrow ((\forall X1. (m1_subset_1 X1 X0) \Rightarrow (\forall X2. (m1_subset_1 X2 X0) \Rightarrow ((k5_xboole_0 X1 X2 \in X0) \wedge (k6_subset_1 X1 X2 \in X0)))) \Rightarrow (v4_finsub_1 X0))$$