

t21_interval1

(TMH98fTtnb5A1aJ1RNzZFqyLD2BXWYGrcVn)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_interval1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_interval1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_interval1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (((\neg v1_xboole_0 X1) \wedge (m1_interval1 X1 X0)) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_interval1 X2 X0)))) \Rightarrow ((r1_interval1 X0 X1 X2) \Leftrightarrow (X1 = X2)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (((\neg v1_xboole_0 X1) \wedge (m1_interval1 X1 X0)) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_interval1 X2 X0)))) \Rightarrow (\neg v1_xboole_0 (k4_interval1 X0 X1 X2)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge (((\neg v1_xboole_0 X1) \wedge (m1_interval1 X1 X0)) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_interval1 X2 X0)))) \Rightarrow (m1_interval1 (k4_interval1 X0 X1 X2) X0) \quad (3)$$

Assume the following.

$$\forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge (m1_interval1 X1 X0)) \Rightarrow (\forall X2. ((\neg v1_xboole_0 X2) \wedge (m1_interval1 X2 X0)) \Rightarrow (k4_interval1 X0 X1 X2 = k2_setfam_1 X1 X2))) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. k2_setfam_1 X0 X1 = k2_setfam_1 X1 X0 \quad (5)$$

Theorem 1

$$\forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge (m1_interval1 X1 X0)) \Rightarrow (\forall X2. ((\neg v1_xboole_0 X2) \wedge (m1_interval1 X2 X0)) \Rightarrow (r1_interval1 X0 (k4_interval1 X0 X1 X2) (k4_interval1 X0 X2 X1))))$$