

t18_relat_1 (TMSxwB- huM61pYfAPypM4PZrsgTgmo8VpsZt)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k1_relat_1 : \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. k2_xboole_0 (k2_xboole_0 X0 X1) X2 = k2_xboole_0 X0 (k2_xboole_0 X1 X2) \quad (1)$$

Assume the following.

$$\forall X0. (v1_relat_1 X0) \Rightarrow (\forall X1. (v1_relat_1 X1) \Rightarrow (k9_xtuple_0 (k2_xboole_0 X0 X1) = k2_xboole_0 (k9_xtuple_0 X0) (k9_xtuple_0 X1))) \quad (2)$$

Assume the following.

$$\forall X0. (v1_relat_1 X0) \Rightarrow (\forall X1. (v1_relat_1 X1) \Rightarrow (k10_xtuple_0 (k2_xboole_0 X0 X1) = k2_xboole_0 (k10_xtuple_0 X0) (k10_xtuple_0 X1))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge (v1_relat_1 X1)) \Rightarrow (v1_relat_1 (k2_xboole_0 X0 X1)) \quad (4)$$

Assume the following.

$$\forall X0. (v1_relat_1 X0) \Rightarrow (k1_relat_1 X0 = k2_xboole_0 (k9_xtuple_0 X0) (k10_xtuple_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. k2_xboole_0 X0 X1 = k2_xboole_0 X1 X0 \quad (6)$$

Theorem 1

$$\forall X0. (v1_relat_1 X0) \Rightarrow (\forall X1. (v1_relat_1 X1) \Rightarrow (k1_relat_1 (k2_xboole_0 X0 X1) = k2_xboole_0 (k1_relat_1 X0) (k1_relat_1 X1)))$$