

t55_classes2
(TMUUpR5suxq9YqnLJQ9Sc8okZtPg6MaH1nf)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_classes2 : \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v1_classes2 X0)) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge (v1_classes2 X1)) \Rightarrow (r3_xboole_0 X0 X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Rightarrow (k3_xboole_0 X0 X1 = X0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Rightarrow (k2_xboole_0 X0 X1 = X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (r3_xboole_0 X0 X1) \Leftrightarrow ((r1_tarski X0 X1) \vee (r1_tarski X1 X0)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (5)$$

Assume the following.

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

Theorem 1

$$\forall X0. ((\neg v1_xboole_0 X0) \wedge (v1_classes2 X0)) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge (v1_classes2 X1)) \Rightarrow (((\neg v1_xboole_0 (k2_xboole_0 X0 X1)) \wedge (v1_classes2 (k2_xboole_0 X0 X1))) \wedge ((\neg v1_xboole_0 (k3_xboole_0 X0 X1)) \wedge (v1_classes2 (k3_xboole_0 X0 X1)))))$$