

l48_orders_1 (TMPFsbkepTyjwaNSDdBEBYAn- FKHBYpK4z7Z)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $r4_relat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_relat_2 : \iota \Rightarrow o$ be given. Let $k2_wellord1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relat_1 : \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1_relat_1 X2) \Rightarrow ((X0 \in k1_relat_1 (k2_wellord1 X2 X1)) \Rightarrow ((X0 \in k1_relat_1 X2) \wedge (X0 \in X1))) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 X0) \Rightarrow (v1_relat_1 (k2_wellord1 X0 X1)) \quad (2)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.k2_wellord1 X0 X1 = k3_xboole_0 X0 (k2_zfmisc_1 X1 X1)) \quad (3)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (k1_relat_1 X0 = k2_xboole_0 (k9_xtuple_0 X0) (k10_xtuple_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3_xboole_0 X0 X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \quad (5)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(r4_relat_2 X0 X1) \Leftrightarrow (\forall X2.\forall X3.((X2 \in X1) \wedge ((X3 \in X1) \wedge ((k4_tarski X2 X3 \in X0) \wedge (k4_tarski X3 X2 \in X0)))) \Rightarrow (X2 = X3))) \quad (6)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow ((v4_relat_2 X0) \Leftrightarrow (r4_relat_2 X0 (k1_relat_1 X0))) \quad (7)$$

Theorem 1

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(r4_relat_2 X0 X1) \Rightarrow (v4_relat_2 (k2_wellord1 X0 X1)))$$