

t31_card_3

(TMJLGE2G7aagVqmuVxqYum7vA6Jd9nFRJhk)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_card_3 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k7_card_3 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k4_card_3 : \iota \Rightarrow \iota$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $r2_wellord2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (((k9_xtuple_0 X0 = k1_xboole_0) \vee (k10_xtuple_0 X0 = k1_xboole_0)) \Rightarrow (X0 = k1_xboole_0)) \quad (1)$$

Assume the following.

$$(k9_xtuple_0 k1_xboole_0 = k1_xboole_0) \wedge (k10_xtuple_0 k1_xboole_0 = k1_xboole_0) \quad (2)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((k4_card_3 X0 = k1_xboole_0) \Leftrightarrow (k1_xboole_0 \in k10_xtuple_0 X0)) \quad (3)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_card_3 X0))) \Rightarrow (v1_card_1 (k7_card_3 X0)) \quad (4)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_card_3 X0))) \Rightarrow (k7_card_3 X0 = k1_card_1 (k4_card_3 X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(r2_wellord2 X0 X1) \Leftrightarrow (\exists X2.((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \wedge ((v2_funct_1 X2) \wedge ((k9_xtuple_0 X2 = X0) \wedge (k10_xtuple_0 X2 = X1)))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(v1_card_1 X1) \Rightarrow ((X1 = k1_card_1 X0) \Leftrightarrow (r2_wellord2 X0 X1)) \quad (7)$$

Theorem 1

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_card_3 X0))) \Rightarrow ((k1_xboole_0 \in k10_xtuple_0 X0) \Leftrightarrow (k7_card_3 X0 = k1_xboole_0))$$