

t2_groeb_3 (TMZUH-
pRc6aDH6aDKLcmVW73aTwmDfGcTq8W)

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Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15_pre_poly : \iota \Rightarrow \iota$ be given. Let $v1_relat_2 : \iota \Rightarrow o$ be given. Let $v4_relat_2 : \iota \Rightarrow o$ be given. Let $v8_relat_2 : \iota \Rightarrow o$ be given. Let $v2_bagorder : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v4_valued_0 : \iota \Rightarrow o$ be given. Let $v2_pre_poly : \iota \Rightarrow o$ be given. Let $r1_termord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k11_pre_poly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r7_relat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_pre_poly : \iota \Rightarrow \iota$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1_relat_1 X1) \wedge (v4_relat_1 \\ & X1 X0) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 X0) \wedge (v1_valued_0 X1)))) \wedge \\ & ((v1_relat_1 X2) \wedge (v4_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 \\ & X2 X0) \wedge (v1_valued_0 X2)))) \Rightarrow (k11_pre_poly X0 X1 X2 = k1_valued_1 \\ & X1 X2) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1_relat_1 X1) \wedge (v4_relat_1 \\ & X1 X0) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 X0) \wedge ((v4_valued_0 X1) \wedge \\ & (v2_pre_poly X1)))) \wedge ((v1_relat_1 X2) \wedge (v4_relat_1 X2 X0) \wedge \\ & ((v1_funct_1 X2) \wedge (v1_partfun1 X2 X0) \wedge ((v4_valued_0 X2) \wedge (v2_pre_poly \\ & X2)))))) \Rightarrow ((v1_relat_1 (k1_valued_1 X1 X2)) \wedge ((v1_funct_1 (k1_valued_1 \\ & X1 X2)) \wedge (v2_pre_poly (k1_valued_1 X1 X2)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1_relat_1 X1) \wedge ((v4_relat_1 \\ & X1 X0) \wedge ((v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge (v4_valued_0 X1)))))) \wedge \\ & ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge ((v1_partfun1 \\ & X2 X0) \wedge (v4_valued_0 X2)))))) \Rightarrow ((v1_relat_1 (k1_valued_1 X1 X2)) \wedge \\ & ((v1_funct_1 (k1_valued_1 X1 X2)) \wedge (v4_valued_0 (k1_valued_1 \\ & X1 X2)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1_relat_1 X1) \wedge ((v4_relat_1 \\ & X1 X0) \wedge ((v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge (v1_valued_0 X1)))))) \wedge \\ & ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge ((v1_partfun1 \\ & X2 X0) \wedge (v1_valued_0 X2)))))) \Rightarrow ((v1_relat_1 (k11_pre_poly X0 X1 \\ & X2)) \wedge ((v4_relat_1 (k11_pre_poly X0 X1 X2) X0) \wedge ((v1_funct_1 (k11_pre_poly \\ & X0 X1 X2)) \wedge (v1_partfun1 (k11_pre_poly X0 X1 X2) X0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v3_ordinal1 X0) \Rightarrow (\forall X1. ((v1_partfun1 X1 (k15_pre_poly \\ & X0)) \wedge ((v1_relat_2 X1) \wedge ((v4_relat_2 X1) \wedge ((v8_relat_2 X1) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly X0) (k15_pre_poly \\ & X0)))))) \Rightarrow ((v2_bagorder X1 X0) \Leftrightarrow ((r7_relat_2 X1 (k15_pre_poly \\ & X0)) \wedge ((\forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 X0) \wedge ((v1_funct_1 \\ & X2) \wedge ((v1_partfun1 X2 X0) \wedge ((v4_valued_0 X2) \wedge (v2_pre_poly X2)))))) \Rightarrow \\ & (k4_tarski (k16_pre_poly X0) X2 \in X1)) \wedge (\forall X2. ((v1_relat_1 \\ & X2) \wedge ((v4_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge ((v1_partfun1 X2 X0) \wedge \\ & ((v4_valued_0 X2) \wedge (v2_pre_poly X2)))))) \Rightarrow (\forall X3. ((v1_relat_1 \\ & X3) \wedge ((v4_relat_1 X3 X0) \wedge ((v1_funct_1 X3) \wedge ((v1_partfun1 X3 X0) \wedge \\ & ((v4_valued_0 X3) \wedge (v2_pre_poly X3)))))) \Rightarrow (\forall X4. ((v1_relat_1 \\ & X4) \wedge ((v4_relat_1 X4 X0) \wedge ((v1_funct_1 X4) \wedge ((v1_partfun1 X4 X0) \wedge \\ & ((v4_valued_0 X4) \wedge (v2_pre_poly X4)))))) \Rightarrow ((k4_tarski X2 X3 \in X1) \Rightarrow \\ & (k4_tarski (k11_pre_poly X0 X2 X4) (k11_pre_poly X0 X3 X4) \in X1)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v3_ordinal1 X0) \Rightarrow (\forall X1. ((v1_partfun1 X1 (k15_pre_poly \\ & X0)) \wedge ((v1_relat_2 X1) \wedge ((v4_relat_2 X1) \wedge ((v8_relat_2 X1) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly X0) (k15_pre_poly \\ & X0)))))) \Rightarrow (\forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 X0) \wedge \\ & ((v1_funct_1 X2) \wedge ((v1_partfun1 X2 X0) \wedge ((v4_valued_0 X2) \wedge (v2_pre_poly \\ & X2)))))) \Rightarrow (\forall X3. ((v1_relat_1 X3) \wedge ((v4_relat_1 X3 X0) \wedge \\ & ((v1_funct_1 X3) \wedge ((v1_partfun1 X3 X0) \wedge ((v4_valued_0 X3) \wedge (v2_pre_poly \\ & X3)))))) \Rightarrow ((r1_termord X0 X1 X2 X3) \Leftrightarrow (k4_tarski X2 X3 \in X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v4_valued_0 X0)) \Rightarrow ((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \Rightarrow ((v1_relat_1 X0) \wedge (v1_valued_0 X0)) \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.((v1_partfun1 X1 (k15_pre_poly X0)) \wedge ((v1_relat_2 X1) \wedge ((v4_relat_2 X1) \wedge ((v8_relat_2 X1) \wedge ((v2_bagorder X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly X0) (k15_pre_poly X0)))))))))) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge ((v4_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge ((v1_partfun1 X2 X0) \wedge ((v4_valued_0 X2) \wedge (v2_pre_poly X2))))))) \Rightarrow (\forall X3.((v1_relat_1 X3) \wedge ((v4_relat_1 X3 X0) \wedge ((v1_funct_1 X3) \wedge ((v1_partfun1 X3 X0) \wedge ((v4_valued_0 X3) \wedge (v2_pre_poly X3))))))) \Rightarrow (\forall X4.((v1_relat_1 X4) \wedge ((v4_relat_1 X4 X0) \wedge ((v1_funct_1 X4) \wedge ((v1_partfun1 X4 X0) \wedge ((v4_valued_0 X4) \wedge (v2_pre_poly X4))))))) \Rightarrow ((r1_termord X0 X1 X2 X3) \Rightarrow (r1_termord X0 X1 (k11_pre_poly X0 X2 X4) (k11_pre_poly X0 X3 X4)))))) \end{aligned}$$