

t7_hilbasis (TMThdSFD- kugJKmc339GCtnHV544MHEqdaKg)

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Let $v3_ordinal1 : \iota \Rightarrow o$ 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 $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_valued_0 : \iota \Rightarrow o$ be given. Let $v2_pre_poly : \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_pre_poly : \iota \Rightarrow \iota$ be given. Let $k20_pre_poly : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_pre_poly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_orders_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_orders_1 : \iota \Rightarrow o$ be given. Let $k1_relat_1 : \iota \Rightarrow \iota$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k17_pre_poly : \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k7_pre_poly : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. (v1_relat_1 X0) \Rightarrow (\forall X1. \forall X2. ((r3_orders_1 X0 X1) \wedge (r1_tarski X2 X1)) \Rightarrow (r3_orders_1 X0 X2)) \quad (2)$$

Assume the following.

$$\forall X0. (v1_relat_1 X0) \Rightarrow ((v3_orders_1 X0) \Rightarrow (r3_orders_1 X0 (k1_relat_1 X0))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_2 X1) \wedge ((v4_relat_2 X1) \wedge ((v8_relat_2 X1) \wedge ((v1_partfun1 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))))))) \Rightarrow (k1_relat_1 X1 = X0) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(v3_ordinal1\ X0) \Rightarrow & ((v1_partfun1\ (k17_pre_poly\ X0) \\ & (k15_pre_poly\ X0)) \wedge ((v1_relat_2\ (k17_pre_poly\ X0)) \wedge ((v4_relat_2 \\ & (k17_pre_poly\ X0)) \wedge ((v8_relat_2\ (k17_pre_poly\ X0)) \wedge (v3_orders_1 \\ & (k17_pre_poly\ X0)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v3_ordinal1\ X0) \wedge ((v1_relat_1\ X1) \wedge ((\\ v4_relat_1\ X1\ X0) \wedge ((v1_funct_1\ X1) \wedge ((v1_partfun1\ X1\ X0) \wedge ((v4_valued_0 \\ X1) \wedge (v2_pre_poly\ X1)))))) \Rightarrow (m2_finseq_1\ (k20_pre_poly\ X0\ X1) \\ (k15_pre_poly\ X0)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(v3_ordinal1\ X0) \Rightarrow & ((v1_partfun1\ (k17_pre_poly\ X0) \\ & (k15_pre_poly\ X0)) \wedge ((v1_relat_2\ (k17_pre_poly\ X0)) \wedge ((v4_relat_2 \\ & (k17_pre_poly\ X0)) \wedge ((v8_relat_2\ (k17_pre_poly\ X0)) \wedge (m1_subset_1 \\ & (k17_pre_poly\ X0)\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly\ X0) \\ & (k15_pre_poly\ X0)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1_finset_1\ X1) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1 \\ X0))) \Rightarrow & (\forall X2.((v1_partfun1\ X2\ X0) \wedge ((v1_relat_2\ X2) \wedge ((v4_relat_2 \\ X2) \wedge ((v8_relat_2\ X2) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ X0\ X0)))))) \Rightarrow ((r3_orders_1\ X2\ X1) \Rightarrow (\forall X3.(m2_finseq_1\ X3 \\ X0) \Rightarrow ((X3 = k7_pre_poly\ X0\ X1\ X2) \Leftrightarrow ((k2_relset_1\ X0\ X3 = X1) \wedge (\forall X4. \\ (v7_ordinal1\ X4) \Rightarrow (\forall X5.(v7_ordinal1\ X5) \Rightarrow (((X4 \in k4_finseq_1 \\ X3) \wedge (X5 \in k4_finseq_1\ X3)) \Rightarrow ((r1_xxreal_0\ X5\ X4) \vee ((k7_partfun1 \\ X0\ X3\ X4 \neq k7_partfun1\ X0\ X3\ X5) \wedge (k4_tarski\ (k7_partfun1\ X0\ X3\ X4) \\ (k7_partfun1\ X0\ X3\ X5) \in X2)))))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(v3_ordinal1\ X0) \Rightarrow & (\forall X1.((v1_relat_1\ X1) \wedge ((\\ v4_relat_1\ X1\ X0) \wedge ((v1_funct_1\ X1) \wedge ((v1_partfun1\ X1\ X0) \wedge ((v4_valued_0 \\ X1) \wedge (v2_pre_poly\ X1)))))) \Rightarrow (\forall X2.(m2_finseq_1\ X2\ (k15_pre_poly \\ X0)) \Rightarrow ((X2 = k20_pre_poly\ X0\ X1) \Leftrightarrow (\exists X3.((\neg v1_xboole_0\ X3) \wedge \\ ((v1_finset_1\ X3) \wedge (m1_subset_1\ X3\ (k1_zfmisc_1\ (k15_pre_poly \\ X0)))))) \wedge ((X2 = k7_pre_poly\ (k15_pre_poly\ X0)\ X3\ (k17_pre_poly \\ X0)) \wedge (\forall X4.((v1_relat_1\ X4) \wedge ((v4_relat_1\ X4\ X0) \wedge ((v1_funct_1 \\ X4) \wedge ((v1_partfun1\ X4\ X0) \wedge ((v4_valued_0\ X4) \wedge (v2_pre_poly\ X4)))))) \Rightarrow \\ ((X4 \in X3) \Leftrightarrow (r3_pre_poly\ X0\ X4\ X1)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1 \\ (k2_zfmisc_1\ X0\ X1))) \Rightarrow (v1_relat_1\ X2) \end{aligned} \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v3_ordinal1\ X0) \Rightarrow (\forall X1.((v1_relat_1\ X1) \wedge ((\\ & v4_relat_1\ X1\ X0) \wedge ((v1_funct_1\ X1) \wedge ((v1_partfun1\ X1\ X0) \wedge ((v4_valued_0 \\ & X1) \wedge (v2_pre_poly\ X1)))))) \Rightarrow (\forall X2.((v1_relat_1\ X2) \wedge ((v4_relat_1 \\ & X2\ X0) \wedge ((v1_funct_1\ X2) \wedge ((v1_partfun1\ X2\ X0) \wedge ((v4_valued_0\ X2) \wedge \\ & (v2_pre_poly\ X2)))))) \Rightarrow ((X2 \in k2_relset_1\ (k15_pre_poly\ X0)\ (k20_pre_poly \\ & X0\ X1)) \Leftrightarrow (r3_pre_poly\ X0\ X2\ X1))) \end{aligned}$$