

t34_zf_fund1 (TM-
cySwQKvfj24aRDPBEEFubXyTkS895j5YW)

October 27, 2020

Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_zflang : \iota$ be given. Let $k4_zffund1 : \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k7_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $k7_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zffund1 : \iota$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funct_1 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((v2_funct_1 X2) \Rightarrow (k7_relat_1 X2 (k6_subset_1 X0 X1) = k6_subset_1 (k7_relat_1 X2 X0) (k7_relat_1 X2 X1))) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (v1_relat_1 X2) \Rightarrow (k7_relat_1 X2 (k2_xboole_0 X0 X1) = k2_xboole_0 (k7_relat_1 X2 X0) (k7_relat_1 X2 X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k7_subset_1 X0 X1 X2 = k4_xboole_0 X1 X2) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (k4_subset_1 X0 X1 X2 = k2_xboole_0 X1 X2) \quad (5)$$

Assume the following.

$$(k1_relset_1 \ k4_ordinal1 \ k2_zf_fund1 = k4_ordinal1) \wedge ((k2_relset_1 \ k1_zf_lang \ k2_zf_fund1 = k1_zf_lang) \wedge ((v2_funct_1 \ k2_zf_fund1) \wedge ((v2_funct_1 \ (k2_funct_1 \ k2_zf_fund1)) \wedge ((k9_xtuple_0 \ (k2_funct_1 \ k2_zf_fund1) = k1_zf_lang) \wedge (k10_xtuple_0 \ (k2_funct_1 \ k2_zf_fund1) = k4_ordinal1)))))) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. v1_relat_1 \ (k2_zfmisc_1 \ X0 \ X1) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ X0)) \Rightarrow (m1_subset_1 \ (k7_subset_1 \ X0 \ X1 \ X2) \ (k1_zfmisc_1 \ X0)) \quad (8)$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ (k1_zfmisc_1 \ k1_zf_lang)) \Rightarrow (m1_subset_1 \ (k4_zf_fund1 \ X0) \ (k1_zfmisc_1 \ k4_ordinal1)) \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1_subset_1 \ X1 \ (k1_zfmisc_1 \ X0)) \wedge (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ X0))) \Rightarrow (m1_subset_1 \ (k4_subset_1 \ X0 \ X1 \ X2) \ (k1_zfmisc_1 \ X0)) \quad (10)$$

Assume the following.

$$(v1_funct_1 \ k2_zf_fund1) \wedge ((v1_funct_2 \ k2_zf_fund1 \ k4_ordinal1 \ k1_zf_lang) \wedge (m1_subset_1 \ k2_zf_fund1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k4_ordinal1 \ k1_zf_lang)))) \quad (11)$$

Assume the following.

$$\forall X0. ((v1_relat_1 \ X0) \wedge (v1_funct_1 \ X0)) \Rightarrow ((v1_relat_1 \ (k2_funct_1 \ X0)) \wedge (v1_funct_1 \ (k2_funct_1 \ X0))) \quad (12)$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ (k1_zfmisc_1 \ k1_zf_lang)) \Rightarrow (k4_zf_fund1 \ X0 = k7_relat_1 \ (k2_funct_1 \ k2_zf_fund1) \ X0) \quad (13)$$

Assume the following.

$$\forall X0. (v1_relat_1 \ X0) \Rightarrow (\forall X1. (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ X0)) \Rightarrow (v1_relat_1 \ X1)) \quad (14)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_finset_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 k1_zf_lang))) \Rightarrow \\ & (\forall X1.((v1_finset_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 k1_zf_lang))) \Rightarrow \\ & ((k4_zf_fund1 (k4_subset_1 k1_zf_lang X0 X1) = k4_subset_1 k4_ordinal1 \\ & (k4_zf_fund1 X0) (k4_zf_fund1 X1)) \wedge (k4_zf_fund1 (k7_subset_1 \\ & k1_zf_lang X0 X1) = k7_subset_1 k4_ordinal1 (k4_zf_fund1 X0) (k4_zf_fund1 \\ & X1)))) \end{aligned}$$