

t60_eqrel_1
(TMZ5GAfanCEUQu7i4Bo56zSrvQm6zaxZYzu)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_funct_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_mcart_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k8_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_funct_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k8_relset_1 X0 X0 (k6_partfun1 X0) X1 = X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow (\forall X3. ((v1_relat_1 X3) \wedge (v1_funct_1 X3)) \Rightarrow (k8_relat_1 (k15_funct_3 X2 X3) (k2_zfmisc_1 X0 X1) = k2_zfmisc_1 (k8_relat_1 X2 X0) (k8_relat_1 X3 X1))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. k2_zfmisc_1 (k1_tarski X0) (k1_tarski X1) = k1_tarski (k4_tarski X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(k8_relset_1 X0 X1 X2 X3 = k8_relat_1 X2 X3) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X2 (k1_zfmisc_1 X0))\wedge(m1_subset_1 X3 (k1_zfmisc_1 X1)))\Rightarrow(k8_mcart_1 X0 X1 X2 X3 = k2_zfmisc_1 X2 X3) \quad (6)$$

Assume the following.

$$\forall X0.k6_partfun1 X0 = k4_relat_1 X0 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 X0))\Rightarrow(k6_domain_1 X0 X1 = k1_tarski X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge((m1_subset_1 X2 X0)\wedge(m1_subset_1 X3 X1))))\Rightarrow(k1_domain_1 X0 X1 X2 X3 = k4_tarski X2 X3) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5.(((v1_funct_1 X4)\wedge((v1_funct_2 X4 X0 X2)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2))))))\wedge((v1_funct_1 X5)\wedge((v1_funct_2 X5 X1 X3)\wedge(m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X1 X3))))))\Rightarrow(k16_funct_3 X0 X1 X2 X3 X4 X5 = k15_funct_3 X4 X5) \quad (10)$$

Assume the following.

$$\forall X0.(v1_relat_1 (k4_relat_1 X0))\wedge(v1_funct_1 (k4_relat_1 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(v1_relat_1 (k4_relat_1 X0))\wedge((v4_relat_1 (k4_relat_1 X0) X0)\wedge((v1_funct_1 (k4_relat_1 X0))\wedge(v1_partfun1 (k4_relat_1 X0) X0))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(\neg v1_xboole_0 X1))\Rightarrow(\neg v1_xboole_0 (k2_zfmisc_1 X0 X1)) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(m1_subset_1 (k8_relset_1 X0 X1 X2 X3) (k1_zfmisc_1 X0)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X2 (k1_zfmisc_1 X0))\wedge(m1_subset_1 X3 (k1_zfmisc_1 X1)))\Rightarrow(m1_subset_1 (k8_mcart_1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \quad (15)$$

Assume the following.

$$\forall X0.(v1_partfun1 (k6_partfun1 X0) X0)\wedge(m1_subset_1 (k6_partfun1 X0) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 X0))\Rightarrow(m1_subset_1 (k6_domain_1 X0 X1) (k1_zfmisc_1 X0)) \quad (17)$$

Assume the following.

$$\forall X0.v1_relat_1 (k4_relat_1 X0) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge((m1_subset_1 X2 X0)\wedge(m1_subset_1 X3 X1))))\Rightarrow(m1_subset_1 (k1_domain_1 X0 X1 X2 X3) (k2_zfmisc_1 X0 X1)) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5.(((v1_funct_1 X4)\wedge((v1_funct_2 X4 X0 X2)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X2))))))\wedge((v1_funct_1 X5)\wedge((v1_funct_2 X5 X1 X3)\wedge(m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X1 X3))))))\Rightarrow((v1_funct_1 (k16_funct_3 X0 X1 X2 X3 X4 X5))\wedge((v1_funct_2 (k16_funct_3 X0 X1 X2 X3 X4 X5) (k2_zfmisc_1 X0 X1) (k2_zfmisc_1 X2 X3))\wedge(m1_subset_1 (k16_funct_3 X0 X1 X2 X3 X4 X5) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) (k2_zfmisc_1 X2 X3)))))) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v1_partfun1 X2 X0)\Rightarrow(v1_funct_2 X2 X0 X1)) \quad (22)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\ & \quad (\forall X2.(\neg v1_xboole_0 X2) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge \\ & \quad ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & \quad X0 X1)))))) \Rightarrow (\forall X4.(m1_subset_1 X4 X1) \Rightarrow (\forall X5.(m1_subset_1 \\ & X5 X2) \Rightarrow (r2_relset_1 X0 X2 (k8_relset_1 (k2_zfmisc_1 X0 X2) (k2_zfmisc_1 \\ & X1 X2) (k16_funct_3 X0 X2 X1 X2 X3 (k6_partfun1 X2)) (k6_domain_1 \\ & (k2_zfmisc_1 X1 X2) (k1_domain_1 X1 X2 X4 X5))) (k8_mcart_1 X0 X2 \\ & (k8_relset_1 X0 X1 X3 (k6_domain_1 X1 X4) (k6_domain_1 X2 X5)))))))))) \end{aligned}$$