

t3_oposet_1 (TMTSGWPHkB- vATYgmkjwkyqp8BgcBx9oSrQH)

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Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $k1_oposet_1 : \iota$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $g2_qmax_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v3_relat_2 : \iota \Rightarrow o$ be given. Let $v4_relat_2 : \iota \Rightarrow o$ be given. Let $v8_relat_2 : \iota \Rightarrow o$ be given. Let $l2_qmax_1 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $l1_robbins1 : \iota \Rightarrow o$ be given. Let $k8_funct_5 : \iota$ be given. Let $np_1 : \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_qmax_1 : \iota \Rightarrow o$ be given. Let $v1_relat_2 : \iota \Rightarrow o$ be given. Let $r1_relat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relat_1 : \iota \Rightarrow \iota$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_robbins1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. k6_partfun1 X0 = k4_relat_1 X0 \quad (1)$$

Assume the following.

$$\forall X0. k10_xtuple_0 (k4_relat_1 X0) = X0 \quad (2)$$

Assume the following.

$$\forall X0. k9_xtuple_0 (k4_relat_1 X0) = X0 \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. k2_xboole_0 X0 X0 = X0 \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X0))) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X0) \wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))))) \Rightarrow (\forall X3. \\ & \forall X4. \forall X5. (g2_qmax_1 X0 X1 X2 = g2_qmax_1 X3 X4 X5) \Rightarrow (\\ & (X0 = X3) \wedge ((X1 = X4) \wedge (X2 = X5)))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(v1_relat_1 (k4_relat_1 X0)) \wedge ((v3_relat_2 (k4_relat_1 X0)) \wedge ((v4_relat_2 (k4_relat_1 X0)) \wedge (v8_relat_2 (k4_relat_1 X0)))) \quad (6)$$

Assume the following.

$$\forall X0.(l2_qmax_1 X0) \Rightarrow ((l1_orders_2 X0) \wedge (l1_robbins1 X0)) \quad (7)$$

Assume the following.

$$(v1_funct_1 k8_funct_5) \wedge ((v1_funct_2 k8_funct_5 np_1 np_1) \wedge (m1_subset_1 k8_funct_5 (k1_zfmisc_1 (k2_zfmisc_1 np_1 np_1)))) \quad (8)$$

Assume the following.

$$\forall X0.(v1_partfun1 (k6_partfun1 X0) X0) \wedge (m1_subset_1 (k6_partfun1 X0) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \quad (9)$$

Assume the following.

$$\forall X0.v1_relat_1 (k4_relat_1 X0) \quad (10)$$

Assume the following.

$$(v3_qmax_1 k1_oposet_1) \wedge (l2_qmax_1 k1_oposet_1) \quad (11)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow ((v1_relat_2 X0) \Leftrightarrow (r1_relat_2 X0 (k1_relat_1 X0))) \quad (12)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (k1_relat_1 X0 = k2_xboole_0 (k9_xtuple_0 X0) (k10_xtuple_0 X0)) \quad (13)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow ((v3_orders_2 X0) \Leftrightarrow (r1_relat_2 (u1_orders_2 X0) (u1_struct_0 X0))) \quad (14)$$

Assume the following.

$$k1_oposet_1 = g2_qmax_1 np_1 (k6_partfun1 np_1) k8_funct_5 \quad (15)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v3_relat_2 X0) \wedge (v8_relat_2 X0))) \Rightarrow ((v1_relat_1 X0) \wedge (v1_relat_2 X0)) \quad (16)$$

Assume the following.

$$\forall X0.(l2_qmax_1 X0) \Rightarrow ((v3_qmax_1 X0) \Rightarrow (X0 = g2_qmax_1 (u1_struct_0 X0) (u1_orders_2 X0) (u1_robbins1 X0))) \quad (17)$$

Theorem 1 $v3_orders_2 k1_oposet_1$.