

t45_matrixr2
(TMG8gJqSFov9VG5527p47wKD183jeGpbojU)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v33_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k12_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_group_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_struct_0 : \iota \Rightarrow o$ be given. Let $l3_struct_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow ((v1_xboole_0 X0) \vee ((v2_xxreal_0 X1) \vee (v3_xxreal_0 X0)))))) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2_struct_0\ X1) \wedge \\ ((\neg v6_struct_0\ X1) \wedge (v13_algstr_0\ X1) \wedge (v33_algstr_0\ X1) \wedge \\ (v3_group_1\ X1) \wedge (v5_group_1\ X1) \wedge (v2_rlvect_1\ X1) \wedge (v3_rlvect_1 \\ X1) \wedge (v4_rlvect_1\ X1) \wedge (v4_vectsp_1\ X1) \wedge (v5_vectsp_1\ X1) \wedge \\ (l6_algstr_0\ X1)))))) \Rightarrow (\forall X2.(m1_matrix_1\ X2\ (u1_struct_0 \\ X1)\ X0\ X0) \Rightarrow (\forall X3.(m1_matrix_1\ X3\ (u1_struct_0\ X1)\ X0\ X0) \Rightarrow \\ ((\neg r1_xreal_0\ X0\ k1_xboole_0) \Rightarrow (k12_matrix_3\ X0\ X1\ (k4_matrix_6 \\ X0\ X1\ X2\ X3) = k8_group_1\ X1\ (k12_matrix_3\ X0\ X1\ X2)\ (k12_matrix_3 \\ X0\ X1\ X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge ((\neg v6_struct_0\ X0) \wedge (v13_algstr_0 \\ X0) \wedge (v33_algstr_0\ X0) \wedge (v3_group_1\ X0) \wedge (v5_group_1\ X0) \wedge \\ (v2_rlvect_1\ X0) \wedge (v3_rlvect_1\ X0) \wedge (v4_rlvect_1\ X0) \wedge (v4_vectsp_1 \\ X0) \wedge (v5_vectsp_1\ X0) \wedge (l6_algstr_0\ X0)))))) \Rightarrow (\forall X1. \\ (m1_matrix_1\ X1\ (u1_struct_0\ X0)\ k6_numbers\ k6_numbers) \Rightarrow (k12_matrix_3 \\ k6_numbers\ X0\ X1 = k5_struct_0\ X0)) \end{aligned} \quad (4)$$

Assume the following.

$$m1_subset_1\ k1_xboole_0\ k4_ordinal1 \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0\ X0) \wedge (v5_group_1 \\ X0) \wedge (l3_algstr_0\ X0))) \wedge ((m1_subset_1\ X1\ (u1_struct_0\ X0)) \wedge \\ (m1_subset_1\ X2\ (u1_struct_0\ X0))) \Rightarrow (k8_group_1\ X0\ X1\ X2 = k6_algstr_0 \\ X0\ X1\ X2) \end{aligned} \quad (6)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (7)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (8)$$

Assume the following.

$$\exists X0.(v1_xboole_0\ X0) \wedge (v1_xreal_0\ X0) \quad (9)$$

Assume the following.

$$v6_membered\ k4_ordinal1 \quad (10)$$

Assume the following.

$$\forall X0.(l6_algstr_0\ X0) \Rightarrow ((l2_algstr_0\ X0) \wedge (l5_algstr_0\ X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l5_algstr_0 X0) \Rightarrow ((l4_algstr_0 X0) \wedge (l4_struct_0 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(l4_algstr_0 X0) \Rightarrow ((l3_struct_0 X0) \wedge (l3_algstr_0 X0)) \quad (13)$$

Assume the following.

$$\forall X0.(l3_struct_0 X0) \Rightarrow (m1_subset_1 (k5_struct_0 X0) (u1_struct_0 X0)) \quad (14)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v7_ordinal1 X0) \wedge \\ & (((\neg v2_struct_0 X1) \wedge (\neg v6_struct_0 X1) \wedge (v13_algstr_0 X1) \wedge \\ & ((v33_algstr_0 X1) \wedge (v3_group_1 X1) \wedge (v5_group_1 X1) \wedge (v2_rlvect_1 \\ & X1) \wedge (v3_rlvect_1 X1) \wedge (v4_rlvect_1 X1) \wedge (v4_vectsp_1 X1) \wedge \\ & ((v5_vectsp_1 X1) \wedge (l6_algstr_0 X1)))))))))) \wedge ((m1_matrix_1 \\ & X2 (u1_struct_0 X1) X0 X0) \wedge (m1_matrix_1 X3 (u1_struct_0 X1) X0 X0))) \Rightarrow \\ & (m1_matrix_1 (k4_matrix_6 X0 X1 X2 X3) (u1_struct_0 X1) X0 X0) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l4_algstr_0 X0)) \Rightarrow ((v4_vectsp_1 \\ & X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((k6_algstr_0 \\ & X0 X1 (k5_struct_0 X0) = X1) \wedge (k6_algstr_0 X0 (k5_struct_0 X0) X1 = \\ & X1)))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 k1_numbers)) \Rightarrow (v3_membered X0) \quad (18)$$

Assume the following.

$$\forall X0.((v1_xboole_0 X0) \wedge (v1_xxreal_0 X0)) \Rightarrow ((v1_xxreal_0 X0) \wedge ((\neg v2_xxreal_0 X0) \wedge (\neg v3_xxreal_0 X0))) \quad (19)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\neg v3_xxreal_0 X0) \quad (20)$$

Assume the following.

$$\forall X0.(v6_membered X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v7_ordinal1 X1)) \quad (21)$$

Assume the following.

$$\forall X0.(v3_membered\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ X0) \Rightarrow (v1_xreal_0\ X1)) \quad (22)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1\ X0\ k5_numbers) \Rightarrow (\forall X1.((\neg v2_struct_0 \\ & X1) \wedge ((\neg v6_struct_0\ X1) \wedge ((v13_algstr_0\ X1) \wedge (v33_algstr_0\ X1) \wedge \\ & ((v3_group_1\ X1) \wedge (v5_group_1\ X1) \wedge ((v2_rlvect_1\ X1) \wedge (v3_rlvect_1 \\ & X1) \wedge (v4_rlvect_1\ X1) \wedge (v4_vectsp_1\ X1) \wedge (v5_vectsp_1\ X1) \wedge \\ & (l6_algstr_0\ X1)))))))))) \Rightarrow (\forall X2.(m1_matrix_1\ X2\ (u1_struct_0 \\ & X1)\ X0\ X0) \Rightarrow (\forall X3.(m1_matrix_1\ X3\ (u1_struct_0\ X1)\ X0\ X0) \Rightarrow \\ & (k12_matrix_3\ X0\ X1\ (k4_matrix_6\ X0\ X1\ X2\ X3) = k8_group_1\ X1\ (k12_matrix_3 \\ & X0\ X1\ X2)\ (k12_matrix_3\ X0\ X1\ X3)))))) \end{aligned}$$