

t19_matrtop3

(TMKkaN7ywDrEkSGuY4FYXW65PecU1YmNLSd)

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Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $v4_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_matrtop3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_vectsp_1 : \iota$ be given. Let $k5_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $k5_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ 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 $v36_algstr_0 : \iota \Rightarrow o$ 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 $v3_group_1 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $v3_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $v6_vectsp_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_matrix_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v7_ordinal1 X2) \Rightarrow (\forall X3.(v7_ordinal1 X3) \Rightarrow (((r1_xxreal_0 \\ & np_1 X1) \wedge (r1_xxreal_0 X2 X3)) \Rightarrow ((r1_xxreal_0 X2 X1) \vee (k5_matrix_6 \\ & X3 k2_vectsp_1 (k2_matrtop3 X3 X0 X1 X2) = k2_matrtop3 X3 (k4_xcmplx_0 \\ & X0) X1 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v7_ordinal1 X2) \Rightarrow (\forall X3.(v7_ordinal1 X3) \Rightarrow (((r1_xxreal_0 \\ & np_1 X1) \wedge (r1_xxreal_0 X2 X3)) \Rightarrow ((r1_xxreal_0 X2 X1) \vee (k5_matrix_1 \\ & X3 (u1_struct_0 k2_vectsp_1) (k2_matrtop3 X3 X0 X1 X2) = k2_matrtop3 \\ & X3 (k4_xcmplx_0 X0) X1 X2)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & (\neg v6_struct_0 \ k2_vectsp_1) \wedge ((v13_algstr_0 \ k2_vectsp_1) \wedge ((\\ & v33_algstr_0 \ k2_vectsp_1) \wedge ((v36_algstr_0 \ k2_vectsp_1) \wedge ((v2_rlvect_1 \\ & k2_vectsp_1) \wedge ((v3_rlvect_1 \ k2_vectsp_1) \wedge ((v4_rlvect_1 \ k2_vectsp_1) \wedge \\ & ((v3_group_1 \ k2_vectsp_1) \wedge ((v5_group_1 \ k2_vectsp_1) \wedge ((v3_vectsp_1 \\ & k2_vectsp_1) \wedge ((v5_vectsp_1 \ k2_vectsp_1) \wedge (v6_vectsp_1 \ k2_vectsp_1)))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$(v36_algstr_0 \ k2_vectsp_1) \wedge (v4_vectsp_1 \ k2_vectsp_1) \quad (4)$$

Assume the following.

$$(\neg v2_struct_0 \ k2_vectsp_1) \wedge (v36_algstr_0 \ k2_vectsp_1) \quad (5)$$

Assume the following.

$$(v36_algstr_0 \ k2_vectsp_1) \wedge (l6_algstr_0 \ k2_vectsp_1) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v7_ordinal1 \ X0) \wedge \\ & ((v1_xreal_0 \ X1) \wedge ((v7_ordinal1 \ X2) \wedge (v7_ordinal1 \ X3)))) \Rightarrow ((v1_matrix_6 \\ & (k2_matrtop3 \ X0 \ X1 \ X2 \ X3) \ X0 \ k2_vectsp_1) \wedge (m1_matrix_1 \ (k2_matrtop3 \\ & X0 \ X1 \ X2 \ X3) \ (u1_struct_0 \ k2_vectsp_1) \ X0 \ X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7_ordinal1 \ X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 \ X1) \wedge \\ & ((\neg v6_struct_0 \ X1) \wedge ((v13_algstr_0 \ X1) \wedge ((v33_algstr_0 \ X1) \wedge (\\ & (v3_group_1 \ X1) \wedge ((v5_group_1 \ X1) \wedge ((v2_rlvect_1 \ X1) \wedge ((v3_rlvect_1 \\ & X1) \wedge ((v4_rlvect_1 \ X1) \wedge ((v4_vectsp_1 \ X1) \wedge ((v5_vectsp_1 \ X1) \wedge \\ & (l6_algstr_0 \ X1)))))))))) \Rightarrow (\forall X2. (m1_matrix_1 \ X2 \ (u1_struct_0 \\ & X1) \ X0 \ X0) \Rightarrow ((v4_matrix_6 \ X2 \ X0 \ X1) \Leftrightarrow ((v1_matrix_6 \ X2 \ X0 \ X1) \wedge (k5_matrix_1 \\ & X0 \ (u1_struct_0 \ X1) \ X2 = k5_matrix_6 \ X0 \ X1 \ X2)))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0. (v1_xreal_0 \ X0) \Rightarrow (\forall X1. (v7_ordinal1 \ X1) \Rightarrow (\forall X2. \\ & (v7_ordinal1 \ X2) \Rightarrow (\forall X3. (v7_ordinal1 \ X3) \Rightarrow (((r1_xxreal_0 \\ & np_1 \ X1) \wedge (r1_xxreal_0 \ X2 \ X3)) \Rightarrow ((r1_xxreal_0 \ X2 \ X1) \vee ((v4_matrix_6 \\ & (k2_matrtop3 \ X3 \ X0 \ X1 \ X2) \ X3 \ k2_vectsp_1) \wedge (k5_matrix_6 \ X3 \ k2_vectsp_1 \\ & (k2_matrtop3 \ X3 \ X0 \ X1 \ X2) = k2_matrtop3 \ X3 \ (k4_xcmplx_0 \ X0) \ X1 \ X2)))))) \end{aligned}$$