

t83_matrixr2
(TMHAPZcPEmFf44M8dQPYiWRy3YbnXYBw3pi)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $m1_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_matrixr2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_matrixr2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_matrixr2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_matrixr2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_matrix_1 X1 k1_numbers X0 X0) \Rightarrow (k1_matrixr2 X0 X1 (k4_matrixr2 X0) = X1)) \quad (1)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_matrix_1 X1 k1_numbers X0 X0) \Rightarrow (\forall X2.(m1_matrix_1 X2 k1_numbers X0 X0) \Rightarrow (\forall X3.(m1_matrix_1 X3 k1_numbers X0 X0) \Rightarrow (k1_matrixr2 X0 (k1_matrixr2 X0 X1 X2) X3 = k1_matrixr2 X0 X1 (k1_matrixr2 X0 X2 X3)))))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers) \wedge (m1_matrix_1 X1 k1_numbers X0 X0)) \Rightarrow (m1_matrix_1 (k7_matrixr2 X0 X1) k1_numbers X0 X0) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X0 k5_numbers) \wedge ((m1_matrix_1 X1 k1_numbers X0 X0) \wedge (m1_matrix_1 X2 k1_numbers X0 X0))) \Rightarrow (m1_matrix_1 (k1_matrixr2 X0 X1 X2) k1_numbers X0 X0) \quad (4)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_matrix_1 X1 k1_numbers X0 X0) \Rightarrow ((v1_matrixr2 X1 X0) \Rightarrow (\forall X2.(m1_matrix_1 X2 k1_numbers X0 X0) \Rightarrow ((X2 = k7_matrixr2 X0 X1) \Leftrightarrow ((k1_matrixr2 X0 X2 X1 = k4_matrixr2 X0) \wedge (k1_matrixr2 X0 X1 X2 = k4_matrixr2 X0)))))) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_matrix_1 \\ & X1 k1_numbers X0 X0) \Rightarrow ((v1_matrixr2 X1 X0) \Leftrightarrow (\exists X2.(m1_matrix_1 \\ & X2 k1_numbers X0 X0) \wedge ((k1_matrixr2 X0 X2 X1 = k4_matrixr2 X0) \wedge (k1_matrixr2 \\ & X0 X1 X2 = k4_matrixr2 X0)))))) \end{aligned} \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_matrix_1 \\ & X1 k1_numbers X0 X0) \Rightarrow (\forall X2.(m1_matrix_1 X2 k1_numbers X0 \\ & X0) \Rightarrow (((v1_matrixr2 X1 X0) \wedge (v1_matrixr2 X2 X0)) \Rightarrow ((v1_matrixr2 \\ & (k1_matrixr2 X0 X1 X2) X0) \wedge (k7_matrixr2 X0 (k1_matrixr2 X0 X1 X2) = \\ & k1_matrixr2 X0 (k7_matrixr2 X0 X2) (k7_matrixr2 X0 X1)))))) \end{aligned}$$