

t87_matrixr2 (TMMTFn- wND7GifV2MxxEAoitD3BUM72mccmH)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $m1_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_matrixr2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k11_matrixr1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_matrixr2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_matrixr2 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_matrix_1 : \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $k1_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k6_matrixr1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k1_matrixr2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_arytm_3 : \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m2_finseq_1 \\ & X1 k1_numbers) \Rightarrow ((k3_finseq_1 X1 = X0) \Rightarrow ((r1_xxreal_0 X0 k6_numbers) \vee \\ & (k11_matrixr1 (k4_matrixr2 X0) X1 = X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_matrix_1 \\ & X1 k1_numbers X0 X0) \Rightarrow ((v1_matrixr2 X1 X0) \Rightarrow (k7_matrixr2 X0 (k7_matrixr2 \\ & X0 X1) = X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 k1_numbers) \Rightarrow (\forall X1.((v1_matrix_1 \\ & X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 k1_numbers))) \Rightarrow (\forall X2. \\ & ((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 k1_numbers))) \Rightarrow \\ & (((k3_finseq_1 X0 = k1_matrix_1 X2) \wedge (k1_matrix_1 X1 = k3_finseq_1 \\ & X2)) \Rightarrow ((r1_xxreal_0 (k3_finseq_1 X0) k6_numbers) \vee ((r1_xxreal_0 \\ & (k3_finseq_1 X2) k6_numbers) \vee (k11_matrixr1 (k6_matrixr1 X1 X2) \\ & X0 = k11_matrixr1 X1 (k11_matrixr1 X2 X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_matrix_1 X1) \wedge \\ & (m2_finseq_1 X1 (k3_finseq_2 X0))) \Rightarrow ((\neg v1_xxreal_0 (k3_finseq_1 \\ & X1) k1_xboole_0) \Rightarrow (\forall X2.(v7_ordinal1 X2) \Rightarrow ((m1_matrix_1 \\ & X1 X0 (k3_finseq_1 X1) X2) \Leftrightarrow (X2 = k1_matrix_1 X1)))))) \end{aligned} \quad (5)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (6)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((m1_subset_1 X0 k5_numbers) \wedge \\ & ((m1_matrix_1 X1 k1_numbers X0 X0) \wedge (m1_matrix_1 X2 k1_numbers \\ & X0 X0))) \Rightarrow (k1_matrixr2 X0 X1 X2 = k6_matrixr1 X1 X2) \end{aligned} \quad (8)$$

Assume the following.

$$k11_arytm_3 = k1_xboole_0 \quad (9)$$

Assume the following.

$$\exists X0.v1_xboole_0 X0 \quad (10)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0) \wedge ((v7_ordinal1 \\ & X1) \wedge (v7_ordinal1 X2))) \Rightarrow (\forall X3.(m1_matrix_1 X3 X0 X1 X2) \Rightarrow \\ & ((v1_matrix_1 X3) \wedge (m2_finseq_1 X3 (k3_finseq_2 X0)))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_subset_1 X0 k5_numbers) \wedge (m1_matrix_1 \\ & X1 k1_numbers X0 X0)) \Rightarrow (m1_matrix_1 (k7_matrixr2 X0 X1) k1_numbers \\ & X0 X0) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_matrix_1 \\ & X1 k1_numbers X0 X0) \Rightarrow ((v1_matrixr2 X1 X0) \Rightarrow (\forall X2.(m1_matrix_1 \\ & X2 k1_numbers X0 X0) \Rightarrow ((X2 = k7_matrixr2 X0 X1) \Leftrightarrow ((k1_matrixr2 X0 \\ & X2 X1 = k4_matrixr2 X0) \wedge (k1_matrixr2 X0 X1 X2 = k4_matrixr2 X0)))))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_matrix_1 \\ X1 k1_numbers X0 X0) \Rightarrow ((v1_matrixr2 X1 X0) \Leftrightarrow (\exists X2.(m1_matrix_1 \\ X2 k1_numbers X0 X0) \wedge ((k1_matrixr2 X0 X2 X1 = k4_matrixr2 X0) \wedge (k1_matrixr2 \\ X0 X1 X2 = k4_matrixr2 X0)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\\ \forall X2.(v7_ordinal1 X2) \Rightarrow (\forall X3.((v1_matrix_1 X3) \wedge (\\ m2_finseq_1 X3 (k3_finseq_2 X0))) \Rightarrow ((m1_matrix_1 X3 X0 X1 X2) \Leftrightarrow (\\ (k3_finseq_1 X3 = X1) \wedge (\forall X4.(m2_finseq_1 X4 X0) \Rightarrow ((X4 \in k10_xtuple_0 \\ X3) \Rightarrow (k3_finseq_1 X4 = X2)))))))))) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (17)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m2_finseq_1 \\ X1 k1_numbers) \Rightarrow (\forall X2.(m2_finseq_1 X2 k1_numbers) \Rightarrow (\forall X3. \\ (m1_matrix_1 X3 k1_numbers X0 X0) \Rightarrow (((v1_matrixr2 X3 X0) \wedge ((k3_finseq_1 \\ X1 = X0) \wedge (k3_finseq_1 X2 = X0))) \Rightarrow ((r1_xxreal_0 X0 k6_numbers) \vee \\ ((k11_matrixr1 X3 X1 = X2) \Leftrightarrow (X1 = k11_matrixr1 (k7_matrixr2 X0 X3) \\ X2)))))))))) \end{aligned}$$