

t70_matrix10
(TMJLf5RUr2UjBmUsRMQnBLncEArL3ztqsG7)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $m1_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v3_matrix10 : \iota \Rightarrow o$ be given. Let $r2_matrix10 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_matrix10 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_matrix10 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_matrix_1 X1 k1_numbers \\ & X0 X0) \Rightarrow (\forall X2.(m1_matrix_1 X2 k1_numbers X0 X0) \Rightarrow ((v3_matrix10 \\ & X1) \Rightarrow (r2_matrix10 (k3_matrix10 X0 X1 X2) X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_matrix_1 X1 k1_numbers \\ & X0 X0) \Rightarrow (\forall X2.(m1_matrix_1 X2 k1_numbers X0 X0) \Rightarrow (\forall X3. \\ & (m1_matrix_1 X3 k1_numbers X0 X0) \Rightarrow (\forall X4.(m1_matrix_1 X4 \\ & k1_numbers X0 X0) \Rightarrow ((r2_matrix10 (k3_matrix10 X0 X1 X2) (k3_matrix10 \\ & X0 X3 X4)) \Rightarrow (r2_matrix10 (k4_matrix10 X0 X1 X3) (k4_matrix10 X0 X4 \\ & X2)))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_matrix_1 X1 k1_numbers \\ & X0 X0) \Rightarrow (\forall X2.(m1_matrix_1 X2 k1_numbers X0 X0) \Rightarrow (\forall X3. \\ & (m1_matrix_1 X3 k1_numbers X0 X0) \Rightarrow ((r2_matrix10 (k3_matrix10 \\ & X0 X1 X2) X3) \Rightarrow (r2_matrix10 X1 (k4_matrix10 X0 X3 X2)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(m1_matrix_1 X1 k1_numbers \\ & X0 X0) \Rightarrow (\forall X2.(m1_matrix_1 X2 k1_numbers X0 X0) \Rightarrow (\forall X3. \\ & (m1_matrix_1 X3 k1_numbers X0 X0) \Rightarrow (\forall X4.(m1_matrix_1 X4 \\ & k1_numbers X0 X0) \Rightarrow ((r2_matrix10 (k4_matrix10 X0 X1 X2) (k4_matrix10 \\ & X0 X3 X4)) \Rightarrow (r2_matrix10 (k4_matrix10 X0 X4 X3) (k4_matrix10 X0 X2 \\ & X1)))))))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(m1_matrix_1\ X1\ k1_numbers \\ & X0\ X0) \Rightarrow (\forall X2.(m1_matrix_1\ X2\ k1_numbers\ X0\ X0) \Rightarrow (\forall X3. \\ & (m1_matrix_1\ X3\ k1_numbers\ X0\ X0) \Rightarrow ((r2_matrix10\ (k4_matrix10 \\ & X0\ X1\ X2)\ X3) \Rightarrow (r2_matrix10\ (k4_matrix10\ X0\ X1\ X3)\ X2)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(m1_matrix_1\ X1\ k1_numbers \\ & X0\ X0) \Rightarrow (\forall X2.(m1_matrix_1\ X2\ k1_numbers\ X0\ X0) \Rightarrow (\forall X3. \\ & (m1_matrix_1\ X3\ k1_numbers\ X0\ X0) \Rightarrow ((r2_matrix10\ X1\ (k4_matrix10 \\ & X0\ X2\ X3)) \Rightarrow (r2_matrix10\ X3\ (k4_matrix10\ X0\ X2\ X1)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(m1_matrix_1\ X1\ k1_numbers \\ & X0\ X0) \Rightarrow (\forall X2.(m1_matrix_1\ X2\ k1_numbers\ X0\ X0) \Rightarrow (\forall X3. \\ & (m1_matrix_1\ X3\ k1_numbers\ X0\ X0) \Rightarrow ((r2_matrix10\ (k4_matrix10 \\ & X0\ X1\ X2)\ (k4_matrix10\ X0\ X3\ X2)) \Rightarrow (r2_matrix10\ X1\ X3)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(m1_matrix_1\ X1\ k1_numbers \\ & X0\ X0) \Rightarrow (\forall X2.(m1_matrix_1\ X2\ k1_numbers\ X0\ X0) \Rightarrow ((r2_matrix10 \\ & X1\ X2) \Rightarrow (v3_matrix10\ (k4_matrix10\ X0\ X1\ X2)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(m1_matrix_1\ X1\ k1_numbers \\ & X0\ X0) \Rightarrow (\forall X2.(m1_matrix_1\ X2\ k1_numbers\ X0\ X0) \Rightarrow (((v3_matrix10 \\ & X1) \wedge (v3_matrix10\ X2)) \Rightarrow (v3_matrix10\ (k3_matrix10\ X0\ X1\ X2)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v7_ordinal1\ X0) \wedge ((m1_matrix_1 \\ & X1\ k1_numbers\ X0\ X0) \wedge (m1_matrix_1\ X2\ k1_numbers\ X0\ X0))) \Rightarrow (m1_matrix_1 \\ & (k4_matrix10\ X0\ X1\ X2)\ k1_numbers\ X0\ X0) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v7_ordinal1\ X0) \wedge ((m1_matrix_1 \\ & X1\ k1_numbers\ X0\ X0) \wedge (m1_matrix_1\ X2\ k1_numbers\ X0\ X0))) \Rightarrow (m1_matrix_1 \\ & (k3_matrix10\ X0\ X1\ X2)\ k1_numbers\ X0\ X0) \end{aligned} \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(m1_matrix_1\ X1\ k1_numbers \\ & X0\ X0) \Rightarrow (\forall X2.(m1_matrix_1\ X2\ k1_numbers\ X0\ X0) \Rightarrow (\forall X3. \\ & (m1_matrix_1\ X3\ k1_numbers\ X0\ X0) \Rightarrow (((v3_matrix10\ X1) \wedge (r2_matrix10 \\ & X2\ X3)) \Rightarrow (r2_matrix10\ (k3_matrix10\ X0\ X2\ X1)\ X3)))))) \end{aligned}$$