

# t15\_matrix\_3 (TMT- FoH5t4imRsBNrJazQ5584VxQPZkXaMvQ)

October 27, 2020

Let  $v7\_ordinal1 : \iota \Rightarrow o$  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  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_matrix\_1 : \iota \Rightarrow \iota$  be given. Let  $k12\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_matrix\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\
& ((\neg v6\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v33\_algstr\_0 X1) \wedge ( \\
& (v3\_group\_1 X1) \wedge ((v5\_group\_1 X1) \wedge ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 \\
& X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v4\_vectsp\_1 X1) \wedge ((v5\_vectsp\_1 X1) \wedge \\
& (l6\_algstr\_0 X1)))))))))) \Rightarrow (\forall X2.(v7\_ordinal1 X2) \Rightarrow ( \\
& \forall X3.(v7\_ordinal1 X3) \Rightarrow ((k4\_tarski X2 X3 \in k2\_matrix\_1 (k12\_matrix\_1 \\
& X1 X0)) \Rightarrow ((X3 = X2) \vee (k1\_funct\_1 (k8\_matrix\_1 (u1\_struct\_0 X1) ( \\
& k12\_matrix\_1 X1 X0) X2) X3 = k4\_struct\_0 X1))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\
& ((\neg v6\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v33\_algstr\_0 X1) \wedge ( \\
& (v3\_group\_1 X1) \wedge ((v5\_group\_1 X1) \wedge ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 \\
& X1) \wedge ((v4\_rlvect\_1 X1) \wedge ((v4\_vectsp\_1 X1) \wedge ((v5\_vectsp\_1 X1) \wedge \\
& (l6\_algstr\_0 X1)))))))))) \Rightarrow (\forall X2.(v7\_ordinal1 X2) \Rightarrow ( \\
& \forall X3.(v7\_ordinal1 X3) \Rightarrow (((k4\_tarski X2 X3 \in k2\_matrix\_1 ( \\
& k12\_matrix\_1 X1 X0)) \wedge (X3 = X2)) \Rightarrow (k1\_funct\_1 (k8\_matrix\_1 (u1\_struct\_0 \\
& X1) (k12\_matrix\_1 X1 X0) X2) X3 = k5\_struct\_0 X1))))))
\end{aligned} \tag{2}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge \\ & ((\neg v6\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge ((v33\_algstr\_0\ X1) \wedge \\ & (v3\_group\_1\ X1) \wedge ((v5\_group\_1\ X1) \wedge ((v2\_rlvect\_1\ X1) \wedge ((v3\_rlvect\_1 \\ & X1) \wedge ((v4\_rlvect\_1\ X1) \wedge ((v4\_vectsp\_1\ X1) \wedge ((v5\_vectsp\_1\ X1) \wedge \\ & (l6\_algstr\_0\ X1)))))))))) \Rightarrow (\forall X2.(v7\_ordinal1\ X2) \Rightarrow ( \\ & \forall X3.(v7\_ordinal1\ X3) \Rightarrow ((k4\_tarski\ X2\ X3 \in k2\_matrix\_1\ (k12\_matrix\_1 \\ & X1\ X0)) \Rightarrow (((X2 = X3) \Rightarrow (k1\_funct\_1\ (k8\_matrix\_1\ (u1\_struct\_0\ X1) \\ & (k12\_matrix\_1\ X1\ X0)\ X2)\ X3 = k5\_struct\_0\ X1)) \wedge ((X2 \neq X3) \Rightarrow (k1\_funct\_1 \\ & (k8\_matrix\_1\ (u1\_struct\_0\ X1)\ (k12\_matrix\_1\ X1\ X0)\ X2)\ X3 = k4\_struct\_0 \\ & X1)))))) \end{aligned}$$