

t18\_mazurulm  
(TMTLyxjc1krc3Ne8DrYCo4VVcU1eZAKE7Mh)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  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  $v5\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v6\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v7\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v8\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_normsp\_0 : \iota \Rightarrow o$  be given. Let  $v4\_normsp\_0 : \iota \Rightarrow o$  be given. Let  $v2\_normsp\_1 : \iota \Rightarrow o$  be given. Let  $l1\_normsp\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_mazurulm : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $k5\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $l1\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l2\_normsp\_0 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge ((v3\_normsp\_0 \\
& X0) \wedge ((v4\_normsp\_0 X0) \wedge ((v2\_normsp\_1 X0) \wedge (l1\_normsp\_1 X0)))))))))) \Rightarrow \\
& (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (k3\_rlvect\_1 X0 \\
& X1 X1 = k1\_rlvect\_1 X0 X1 np\_2))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ( \\ (v13\_algstr\_0 X1) \wedge (v2\_rlvect\_1 X1) \wedge (v3\_rlvect\_1 X1) \wedge (v4\_rlvect\_1 \\ X1) \wedge (v5\_rlvect\_1 X1) \wedge (v6\_rlvect\_1 X1) \wedge (v7\_rlvect\_1 X1) \wedge \\ ((v8\_rlvect\_1 X1) \wedge (l1\_rlvect\_1 X1)))))) \Rightarrow (\forall X2.(m1\_subset\_1 \\ X2 (u1\_struct\_0 X1)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\ X1)) \Rightarrow ((k1\_rlvect\_1 X1 X2 X0 = k1\_rlvect\_1 X1 X3 X0) \Rightarrow ((X0 = k6\_numbers) \vee \\ (X2 = X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (v13\_algstr\_0 X0) \wedge (v2\_rlvect\_1 \\ X0) \wedge (v3\_rlvect\_1 X0) \wedge (v4\_rlvect\_1 X0) \wedge (l2\_algstr\_0 X0))) \Rightarrow \\ (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 \\ X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\ X0)) \Rightarrow (k5\_algstr\_0 X0 X1 (k5\_algstr\_0 X0 X2 X3) = k3\_rlvect\_1 X0 ( \\ k5\_algstr\_0 X0 X1 X2) X3)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (v3\_rlvect\_1 X0) \wedge (l2\_algstr\_0 \\ X0)) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\ (u1\_struct\_0 X0)) \Rightarrow (k5\_algstr\_0 X0 (k1\_algstr\_0 X0 X1 X2) X3 = k1\_algstr\_0 \\ X0 X1 (k5\_algstr\_0 X0 X2 X3)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (v13\_algstr\_0 X0) \wedge (v3\_rlvect\_1 \\ X0) \wedge (v4\_rlvect\_1 X0) \wedge (l2\_algstr\_0 X0))) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 (u1\_struct\_0 X0)) \Rightarrow (k5\_algstr\_0 X0 X1 X1 = k4\_struct\_0 X0)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge \\ ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\neg v1\_xboole\_0 np\_2 \quad (7)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((v2\_rlvect\_1 X0) \wedge (l1\_algstr\_0 \\ X0)) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X2 (u1\_struct\_0 \\ X0)))) \Rightarrow (k3\_rlvect\_1 X0 X1 X2 = k1\_algstr\_0 X0 X1 X2) \end{aligned} \quad (9)$$

Assume the following.

$$v1\_xboole\_0 \ k1\_xboole\_0 \quad (10)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0 \ X0) \Rightarrow ((l2\_struct\_0 \ X0) \wedge (l1\_algstr\_0 \ X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l1\_rlvect\_1 \ X0) \Rightarrow (l2\_algstr\_0 \ X0) \quad (12)$$

Assume the following.

$$\forall X0.(l1\_normsp\_1 \ X0) \Rightarrow ((l1\_rlvect\_1 \ X0) \wedge (l2\_normsp\_0 \ X0)) \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v2\_rlvect\_1 \ X0) \wedge (l1\_algstr\_0 \\ & X0)) \wedge ((m1\_subset\_1 \ X1 \ (u1\_struct\_0 \ X0)) \wedge (m1\_subset\_1 \ X2 \ (u1\_struct\_0 \\ & X0)))) \Rightarrow (m1\_subset\_1 \ (k3\_rlvect\_1 \ X0 \ X1 \ X2) \ (u1\_struct\_0 \ X0)) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2\_struct\_0 \ X0) \wedge (l1\_rlvect\_1 \ X0)) \wedge \\ & (m1\_subset\_1 \ X1 \ (u1\_struct\_0 \ X0))) \Rightarrow ((v1\_funct\_1 \ (k1\_mazurulm \\ & X0 \ X1)) \wedge ((v1\_funct\_2 \ (k1\_mazurulm \ X0 \ X1) \ (u1\_struct\_0 \ X0) \ (u1\_struct\_0 \\ & X0)) \wedge (m1\_subset\_1 \ (k1\_mazurulm \ X0 \ X1) \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \\ & (u1\_struct\_0 \ X0) \ (u1\_struct\_0 \ X0)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.(l2\_algstr\_0 \ X0) \Rightarrow ((v4\_rlvect\_1 \ X0) \Leftrightarrow (\forall X1.( \\ & m1\_subset\_1 \ X1 \ (u1\_struct\_0 \ X0)) \Rightarrow (k1\_algstr\_0 \ X0 \ X1 \ (k4\_struct\_0 \\ & X0) = X1))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 \ X0) \wedge (l1\_rlvect\_1 \ X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 \ X1 \ (u1\_struct\_0 \ X0)) \Rightarrow (\forall X2. ((v1\_funct\_1 \ X2) \wedge \\ & ((v1\_funct\_2 \ X2 \ (u1\_struct\_0 \ X0) \ (u1\_struct\_0 \ X0)) \wedge (m1\_subset\_1 \\ & X2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ (u1\_struct\_0 \ X0) \ (u1\_struct\_0 \ X0)))))) \Rightarrow \\ & ((X2 = k1\_mazurulm \ X0 \ X1) \Leftrightarrow (\forall X3.(m1\_subset\_1 \ X3 \ (u1\_struct\_0 \\ & X0)) \Rightarrow (k3\_funct\_2 \ (u1\_struct\_0 \ X0) \ (u1\_struct\_0 \ X0) \ X2 \ X3 = k5\_algstr\_0 \\ & X0 \ (k1\_rlvect\_1 \ X0 \ X1 \ np\_2) \ X3)))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 \ X0 \ k1\_numbers) \Rightarrow (v1\_xreal\_0 \ X0) \quad (18)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (v13\_algstr\_0 X0) \wedge (v2\_rlvect\_1 \\ & X0) \wedge (v3\_rlvect\_1 X0) \wedge (v4\_rlvect\_1 X0) \wedge (v5\_rlvect\_1 X0) \wedge \\ & ((v6\_rlvect\_1 X0) \wedge (v7\_rlvect\_1 X0) \wedge (v8\_rlvect\_1 X0) \wedge (v3\_normsp\_0 \\ & X0) \wedge (v4\_normsp\_0 X0) \wedge (v2\_normsp\_1 X0) \wedge (l1\_normsp\_1 X0)))))) \Rightarrow \\ & (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow ((k3\_funct\_2 ( \\ & u1\_struct\_0 X0) (u1\_struct\_0 X0) (k1\_mazurulm X0 X1) X1 = X1) \wedge (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((k3\_funct\_2 (u1\_struct\_0 \\ & X0) (u1\_struct\_0 X0) (k1\_mazurulm X0 X1) X2 = X2) \Rightarrow (X1 = X2)))))) \end{aligned}$$