

l25\_gr\_cy\_1  
(TMdHKp24XZBPQDM74kq9sEK7bQe9E1KkT4Q)

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Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k5\_group\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_gr\_cy\_1 : \iota$  be given. Let  $k5\_gr\_cy\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_group\_1 : \iota \Rightarrow o$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k20\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_group\_1 : \iota \Rightarrow \iota$  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  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v15\_algstr\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.(v1\_int\_1 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 \\ X1) \wedge ((v3\_group\_1 X1) \wedge (l3\_algstr\_0 X1)))) \Rightarrow (\forall X2.(m1\_subset\_1 \\ X2 (u1\_struct\_0 X1)) \Rightarrow ((k5\_group\_1 X1 (k20\_binop\_2 X0 np\_1) X2 = \\ k6\_algstr\_0 X1 (k5\_group\_1 X1 X0 X2) X2) \wedge (k5\_group\_1 X1 (k20\_binop\_2 \\ X0 np\_1) X2 = k6\_algstr\_0 X1 X2 (k5\_group\_1 X1 X0 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge ((v3\_group\_1 \\ X0) \wedge (l3\_algstr\_0 X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ X0)) \Rightarrow (k5\_group\_1 X0 k6\_numbers X1 = k1\_group\_1 X0)) \end{aligned} \quad (2)$$

Assume the following.

$$k1\_group\_1 k2\_gr\_cy\_1 = k6\_numbers \quad (3)$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0 : \iota \Rightarrow o.((X0 k6\_numbers) \wedge (\forall X1.(v7\_ordinal1 \\ X1) \Rightarrow ((X0 X1) \Rightarrow (X0 (k1\_nat\_1 X1 np\_1)))) \Rightarrow (\forall X1.(v7\_ordinal1 \\ X1) \Rightarrow (X0 X1)) \end{aligned} \quad (5)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1 X0)\wedge(v1\_int\_1 X1))\Rightarrow(k20\_binop\_2 X0 X1 = k2\_xcmplx\_0 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0)\wedge(m1\_subset\_1 X1 k5\_numbers))\Rightarrow(k1\_nat\_1 X0 X1 = k2\_xcmplx\_0 X0 X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 (u1\_struct\_0 k2\_gr\_cy\_1))\wedge(m1\_subset\_1 X1 (u1\_struct\_0 k2\_gr\_cy\_1)))\Rightarrow(k6\_algstr\_0 k2\_gr\_cy\_1 X0 X1 = k20\_binop\_2 X0 X1) \quad (9)$$

Assume the following.

$$v6\_membered k4\_ordinal1 \quad (10)$$

Assume the following.

$$(\neg v2\_struct\_0 k2\_gr\_cy\_1)\wedge((v15\_algstr\_0 k2\_gr\_cy\_1)\wedge((v2\_group\_1 k2\_gr\_cy\_1)\wedge(v3\_group\_1 k2\_gr\_cy\_1))) \quad (11)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0)\Rightarrow(m1\_subset\_1 (k5\_gr\_cy\_1 X0) (u1\_struct\_0 k2\_gr\_cy\_1)) \quad (12)$$

Assume the following.

$$(\neg v2\_struct\_0 k2\_gr\_cy\_1)\wedge((v15\_algstr\_0 k2\_gr\_cy\_1)\wedge(l3\_algstr\_0 k2\_gr\_cy\_1)) \quad (13)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0)\Rightarrow(k5\_gr\_cy\_1 X0 = X0) \quad (14)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(v1\_int\_1 X0) \quad (15)$$

Assume the following.

$$\forall X0.(v6\_membered X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow(v7\_ordinal1 X1)) \quad (16)$$

**Theorem 1**

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(k5\_group\_1 k2\_gr\_cy\_1 X0 (k5\_gr\_cy\_1 np\_1) = X0)$$