

# t13\_gr\_cy\_1 (TM- MAd9eGJG5svngHA8oT5kcTtpQmabN4XEn)

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Let  $k1\_group\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_gr\_cy\_1 : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_group\_1 : \iota \Rightarrow o$  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  $k6\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $k20\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $g3\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $v5\_membered : \iota \Rightarrow o$  be given. Let  $k4\_numbers : \iota$  be given. Let  $v15\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $k44\_binop\_2 : \iota$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $v1\_membered : \iota \Rightarrow o$  be given. Let  $v4\_membered : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $u2\_algstr\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_group\_1 X0) \wedge (l3\_algstr\_0 \\ & X0))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow ((\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((k6\_algstr\_0 X0 X2 X1 = X2) \wedge \\ & (k6\_algstr\_0 X0 X1 X2 = X2)))) \Rightarrow (X1 = k1\_group\_1 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (2)$$

Assume the following.

$$m1\_subset\_1 k1\_xboole\_0 k4\_ordinal1 \quad (3)$$

Assume the following.

$$\forall X0. (v1\_xcmplx\_0 X0) \Rightarrow (k2\_xcmplx\_0 X0 k6\_numbers = X0) \quad (4)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1 X0)\wedge(v1\_int\_1 X1))\Rightarrow(k20\_binop\_2 X0 X1 = k2\_xcmplx\_0 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 (u1\_struct\_0 k2\_gr\_cy\_1))\wedge(m1\_subset\_1 X1 (u1\_struct\_0 k2\_gr\_cy\_1)))\Rightarrow(k6\_algstr\_0 k2\_gr\_cy\_1 X0 X1 = k20\_binop\_2 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 (k2\_zfmisc\_1 X0 X0) X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0) X0))))))\Rightarrow(\forall X2.\forall X3.(g3\_algstr\_0 X0 X1 = g3\_algstr\_0 X2 X3)\Rightarrow((X0 = X2)\wedge(X1 = X3))) \quad (8)$$

Assume the following.

$$v6\_membered k4\_ordinal1 \quad (9)$$

Assume the following.

$$v5\_membered k4\_numbers \quad (10)$$

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.

$$(v1\_funct\_1 k44\_binop\_2)\wedge((v1\_funct\_2 k44\_binop\_2 (k2\_zfmisc\_1 k4\_numbers k4\_numbers) k4\_numbers)\wedge(m1\_subset\_1 k44\_binop\_2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 k4\_numbers k4\_numbers) k4\_numbers)))) \quad (12)$$

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.

$$k2\_gr\_cy\_1 = g3\_algstr\_0 k4\_numbers k44\_binop\_2 \quad (14)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0)\Leftrightarrow(X0 \in k4\_numbers) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1 X0)\wedge(v1\_int\_1 X1))\Rightarrow(k20\_binop\_2 X0 X1 = k20\_binop\_2 X1 X0) \quad (16)$$

Assume the following.

$$\forall X0.(v3\_membered X0)\Rightarrow(v1\_membered X0) \quad (17)$$

Assume the following.

$$\forall X0.(v4\_membered X0)\Rightarrow(v3\_membered X0) \quad (18)$$

Assume the following.

$$\forall X0.(v5\_membered X0)\Rightarrow(v4\_membered X0) \quad (19)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(v1\_int\_1 X0) \quad (20)$$

Assume the following.

$$\forall X0.(v6\_membered X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow(v7\_ordinal1 X1)) \quad (21)$$

Assume the following.

$$\forall X0.(v5\_membered X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow(v1\_int\_1 X1)) \quad (22)$$

Assume the following.

$$\forall X0.(v1\_membered X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow(v1\_xcmplx\_0 X1)) \quad (23)$$

Assume the following.

$$\forall X0.(l3\_algstr\_0 X0)\Rightarrow((v15\_algstr\_0 X0)\Rightarrow(X0 = g3\_algstr\_0 (u1\_struct\_0 X0) (u2\_algstr\_0 X0))) \quad (24)$$

**Theorem 1**  $k1\_group\_1 k2\_gr\_cy\_1 = k6\_numbers$ .