

## t45\_xcplx\_1

(TMbdY7WU1by3FXXNzK2sQjNaim2EQDQjHAZ)

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Let  $v1\_xcplx\_0 : \iota \Rightarrow o$  be given. Let  $k3\_xcplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xcplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_xcplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xcplx\_0 X0) \Rightarrow (\forall X1.(v1\_xcplx\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xcplx\_0 X2) \Rightarrow (k3\_xcplx\_0 X0 (k6\_xcplx\_0 X1 X2) = k6\_xcplx\_0 \\ & (k3\_xcplx\_0 X0 X1) (k3\_xcplx\_0 X0 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xcplx\_0 X0) \Rightarrow (\forall X1.(v1\_xcplx\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xcplx\_0 X2) \Rightarrow (k6\_xcplx\_0 (k2\_xcplx\_0 X0 X1) X2 = k2\_xcplx\_0 \\ & (k6\_xcplx\_0 X0 X2) X1))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1\_xcplx\_0 X0) \wedge ((v1\_xcplx\_0 \\ & X1) \wedge (v1\_xcplx\_0 X2))) \Rightarrow (k3\_xcplx\_0 (k2\_xcplx\_0 X0 X1) X2 = k2\_xcplx\_0 \\ & (k3\_xcplx\_0 X0 X2) (k3\_xcplx\_0 X1 X2)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcplx\_0 X0) \wedge (v1\_xcplx\_0 X1)) \Rightarrow (v1\_xcplx\_0 (k6\_xcplx\_0 X0 X1)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcplx\_0 X0) \wedge (v1\_xcplx\_0 X1)) \Rightarrow (v1\_xcplx\_0 (k3\_xcplx\_0 X0 X1)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcplx\_0 X0) \wedge (v1\_xcplx\_0 X1)) \Rightarrow (k2\_xcplx\_0 X0 X1 = k2\_xcplx\_0 X1 X0) \tag{6}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xcmplx\_0 X2) \Rightarrow (\forall X3.(v1\_xcmplx\_0 X3) \Rightarrow (k3\_xcmplx\_0 \\ & (k2\_xcmplx\_0 X0 X1) (k6\_xcmplx\_0 X2 X3) = k6\_xcmplx\_0 (k2\_xcmplx\_0 \\ & (k6\_xcmplx\_0 (k3\_xcmplx\_0 X0 X2) (k3\_xcmplx\_0 X0 X3)) (k3\_xcmplx\_0 \\ & X1 X2)) (k3\_xcmplx\_0 X1 X3)))))) \end{aligned}$$