

t4\_wsierp\_1  
(TMJWZyFE3F3S7XGCU2vAxyY5TociqoipvU)

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Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $r1\_int\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow (X0 = k6\_xcmplx\_0 (k2\_xcmplx\_0 X0 X1) X1)) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0) \Rightarrow (\forall X1.(v1\_int\_1 X1) \Rightarrow (\forall X2.(v1\_int\_1 X2) \Rightarrow (((r1\_int\_1 X0 X1) \wedge (r1\_int\_1 X0 (k2\_xcmplx\_0 X1 X2))) \Rightarrow (r1\_int\_1 X0 X2)))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0 X0) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow (k2\_xcmplx\_0 X0 (k4\_xcmplx\_0 X1) = k6\_xcmplx\_0 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1 X0) \wedge (v1\_int\_1 X1)) \Rightarrow (r1\_int\_1 X0 X0) \quad (4)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0) \Rightarrow (\forall X1.(v1\_int\_1 X1) \Rightarrow ((r1\_int\_1 X0 X1) \Leftrightarrow (r1\_int\_1 X0 (k4\_xcmplx\_0 X1)))) \quad (5)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0) \Rightarrow (\forall X1.(v1\_int\_1 X1) \Rightarrow (\forall X2.(v1\_int\_1 X2) \Rightarrow (((r1\_int\_1 X0 X1) \wedge (r1\_int\_1 X1 X2)) \Rightarrow (r1\_int\_1 X0 X2)))) \quad (6)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0) \Rightarrow ((v1\_xcmplx\_0 (k4\_xcmplx\_0 X0)) \wedge (v1\_int\_1 (k4\_xcmplx\_0 X0))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0 X0) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow (v1\_xcmplx\_0 (k2\_xcmplx\_0 X0 X1)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1 X0) \wedge (v1\_int\_1 X1)) \Rightarrow (v1\_int\_1 (k2\_xcmplx\_0 X0 X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0 X0) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow (k2\_xcmplx\_0 X0 X1 = k2\_xcmplx\_0 X1 X0) \quad (10)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xcmplx\_0 X0) \quad (11)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0) \Rightarrow (v1\_xreal\_0 X0) \quad (12)$$

**Theorem 1**

$$\forall X0.(v1\_int\_1 X0) \Rightarrow (\forall X1.(v1\_int\_1 X1) \Rightarrow (\forall X2.(v1\_int\_1 X2) \Rightarrow (((r1\_int\_1 X0 X1) \wedge (r1\_int\_1 X0 X2)) \Rightarrow (r1\_int\_1 X0 (k2\_xcmplx\_0 X1 X2))))))$$