

## t56\_int\_1

(TMG7Jdfk5JL7Mzmij2PRVbA8QJfTZfdVjM8)

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Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k5\_int\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v3\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $np\_0 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k1\_int\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xreal\_0 X2) \Rightarrow (\neg(\neg r1\_xxreal\_0 X0 k6\_numbers) \wedge (\neg r1\_xxreal\_0 \\ & (k3\_xcmplx\_0 X2 X0) X1) \wedge (r1\_xxreal\_0 X2 (k7\_xcmplx\_0 X1 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 \\ & X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee ((v3\_xxreal\_0 X0) \vee (v2\_xxreal\_0 X1)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0) \Rightarrow ((r1\_xxreal\_0 k6\_numbers X0) \Rightarrow (X0 \in k5\_numbers)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X2)) \Rightarrow \\ & (r1\_xxreal\_0 X0 X2)))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Leftrightarrow (r1\_xxreal\_0 (k4\_xcmplx\_0 X1) (k4\_xcmplx\_0 X0)))) \quad (6)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X0)) \Rightarrow (X0 = X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (8)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\neg(\neg r1\_xxreal\_0 X0 k6\_numbers) \wedge ((\neg r1\_xxreal\_0 X1 np\_1) \wedge (r1\_xxreal\_0 (k3\_xcmplx\_0 X0 X1) X0)))) \quad (9)$$

Assume the following.

$$((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \quad (10)$$

Assume the following.

$$(m2\_subset\_1 np\_0 k1\_numbers k5\_numbers) \wedge ((m1\_subset\_1 np\_0 k5\_numbers) \wedge (m1\_subset\_1 np\_0 k1\_numbers)) \quad (11)$$

Assume the following.

$$v1\_xboole\_0 np\_0 \quad (12)$$

Assume the following.

$$k4\_xcmplx\_0 (k4\_xcmplx\_0 np\_1) = np\_1 \quad (13)$$

Assume the following.

$$k4\_xcmplx\_0 np\_0 = np\_0 \quad (14)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (15)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (16)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k4\_xcmplx\_0 (k4\_xcmplx\_0 X0) = X0) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xreal\_0 X1))\Rightarrow(v1\_xreal\_0 (k7\_xcmplx\_0 X0 X1)) \quad (18)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow((v1\_xcmplx\_0 (k4\_xcmplx\_0 X0))\wedge(v1\_xreal\_0 (k4\_xcmplx\_0 X0))) \quad (19)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0)\Rightarrow((v1\_xcmplx\_0 (k4\_xcmplx\_0 X0))\wedge(v1\_int\_1 (k4\_xcmplx\_0 X0))) \quad (20)$$

Assume the following.

$$\forall X0.((-v3\_xxreal\_0 X0)\wedge(v1\_xreal\_0 X0))\Rightarrow((v1\_xcmplx\_0 (k4\_xcmplx\_0 X0))\wedge(\neg v2\_xxreal\_0 (k4\_xcmplx\_0 X0))) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_int\_1 X0)\wedge(v1\_int\_1 X1))\Rightarrow(v1\_int\_1 (k5\_int\_1 X0 X1)) \quad (22)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_int\_1 (k1\_int\_1 X0)) \quad (23)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0)\Rightarrow(\forall X1.(v1\_int\_1 X1)\Rightarrow(k5\_int\_1 X0 X1 = k1\_int\_1 (k7\_xcmplx\_0 X0 X1))) \quad (24)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(\forall X1.(v1\_int\_1 X1)\Rightarrow((X1 = k1\_int\_1 X0)\Leftrightarrow((r1\_xxreal\_0 X1 X0)\wedge(\neg r1\_xxreal\_0 X1 (k5\_real\_1 X0 np\_1)))))) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0)\wedge(v1\_xxreal\_0 X1))\Rightarrow((r1\_xxreal\_0 X0 X1)\vee(r1\_xxreal\_0 X1 X0)) \quad (26)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1)\Rightarrow(v7\_ordinal1 X0) \quad (27)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Rightarrow(v7\_ordinal1 X0) \quad (28)$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0 X0) \wedge (v3\_xxreal\_0 X0)) \Rightarrow ((\neg v1\_xboole\_0 X0) \wedge ((v1\_xxreal\_0 X0) \wedge (\neg v2\_xxreal\_0 X0))) \quad (29)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (30)$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0 X0) \wedge (v2\_xxreal\_0 X0)) \Rightarrow ((\neg v1\_xboole\_0 X0) \wedge ((v1\_xxreal\_0 X0) \wedge (\neg v3\_xxreal\_0 X0))) \quad (31)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0) \Rightarrow (v1\_xreal\_0 X0) \quad (32)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (33)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_xreal\_0 X0) \quad (34)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\neg v3\_xxreal\_0 X0) \quad (35)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_int\_1 X0) \quad (36)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (37)$$

**Theorem 1**

$$\forall X0.(v1\_int\_1 X0) \Rightarrow (\forall X1.(v1\_int\_1 X1) \Rightarrow (\neg(\neg r1\_xxreal\_0 X0 k6\_numbers) \wedge ((\neg r1\_xxreal\_0 X1 np\_1) \wedge (r1\_xxreal\_0 X0 (k5\_int\_1 X0 X1))))))$$