

# t2\_irrat\_1 (TMYpAYxL- SJRi76PRyZGeEavr3WUusb975U4L)

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Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_rat\_1 : \iota \Rightarrow o$  be given. Let  $k3\_power : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k3\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_int\_2 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  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  $k7\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_0 : \iota$  be given. Let  $k6\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $v6\_membered : \iota \Rightarrow o$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v5\_membered : \iota \Rightarrow o$  be given. Let  $v4\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Rightarrow ((v1\_xboole\_0 X0) \vee ((v2\_xxreal\_0 X1) \vee (v3\_xxreal\_0 X0)))))) \quad (1)$$

Assume the following.

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

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k6\_xcmplx\_0 X0 k6\_numbers = X0) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (k3\_power X0 np\_2 = k3\_square\_1 X0) \quad (4)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2.(v1\_xreal\_0 X2) \Rightarrow ((\neg r1\_xxreal\_0 X0 k6\_numbers) \Rightarrow (k3\_power (k3\_power X0 X1) X2 = k3\_power X0 (k3\_xcmplx\_0 X1 X2)))))) \quad (5)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (v3\_xxreal\_0 X1)) \Rightarrow (v3\_xxreal\_0 X0))) \quad (6)$$

Assume the following.

$$v1\_int\_2 \text{ np\_2} \quad (7)$$

Assume the following.

$$m1\_subset\_1 \text{ k1\_xboole\_0 k4\_ordinal1} \quad (8)$$

Assume the following.

$$\forall X0.(m2\_subset\_1 X0 \text{ k1\_numbers k5\_numbers}) \Rightarrow (\neg(v1\_int\_2 X0) \wedge (v1\_rat\_1 (k7\_square\_1 X0))) \quad (9)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k2\_xcmplx\_0 X0 \text{ k6\_numbers} = X0) \quad (10)$$

Assume the following.

$$((v2\_xxreal\_0 \text{ np\_2}) \wedge (m2\_subset\_1 \text{ np\_2 k1\_numbers k5\_numbers})) \wedge ((m1\_subset\_1 \text{ np\_2 k5\_numbers}) \wedge (m1\_subset\_1 \text{ np\_2 k1\_numbers})) \quad (11)$$

Assume the following.

$$v1\_xboole\_0 \text{ np\_0} \quad (12)$$

Assume the following.

$$r1\_xxreal\_0 \text{ np\_0 np\_2} \quad (13)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 \text{ k1\_numbers}) \Rightarrow (k7\_square\_1 X0 = k6\_square\_1 X0) \quad (14)$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$v6\_membered \text{ k4\_ordinal1} \quad (17)$$

Assume the following.

$$\forall X0.((\neg v3\_xxreal\_0 X0) \wedge (v1\_xreal\_0 X0)) \Rightarrow ((v1\_xcmplx\_0 (k4\_xcmplx\_0 X0)) \wedge (\neg v2\_xxreal\_0 (k4\_xcmplx\_0 X0))) \quad (18)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xreal\_0 (k6\_square\_1 X0)) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \Rightarrow (v1\_xreal\_0 (k3\_power X0 X1)) \quad (20)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow (k6\_xcmplx\_0 X0 X1 = k2\_xcmplx\_0 X0 (k4\_xcmplx\_0 X1))) \quad (21)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow ((r1\_xxreal\_0 k6\_numbers X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((X1 = k6\_square\_1 X0) \Leftrightarrow ((r1\_xxreal\_0 k6\_numbers X1) \wedge (k3\_square\_1 X1 = X0)))))) \quad (22)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k3\_square\_1 X0 = k3\_xcmplx\_0 X0 X0) \quad (23)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0 X0) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow (k2\_xcmplx\_0 X0 X1 = k2\_xcmplx\_0 X1 X0) \quad (24)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (v7\_ordinal1 X0) \quad (25)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xcmplx\_0 X0) \quad (26)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_xreal\_0 X0) \quad (27)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\neg v3\_xxreal\_0 X0) \quad (28)$$

Assume the following.

$$\forall X0.(v5\_membered X0) \Rightarrow (v4\_membered X0) \quad (29)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (30)$$

Assume the following.

$$\forall X0.(v6\_membered\ X0)\Rightarrow(v5\_membered\ X0) \quad (31)$$

Assume the following.

$$\forall X0.(v4\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow(v1\_rat\_1\ X1)) \quad (32)$$

**Theorem 1**

$$\exists X0.(v1\_xreal\_0\ X0)\wedge(\exists X1.(v1\_xreal\_0\ X1)\wedge((\neg v1\_rat\_1\ X0)\wedge((\neg v1\_rat\_1\ X1)\wedge(v1\_rat\_1\ (k3\_power\ X0\ X1))))))$$