

## t1\_rfunct\_3

(TMQD2EG16vk1TZzcV4pDdbg4iwsBEpgkTzd)

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Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k9\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_rfunct\_3 : \iota \Rightarrow \iota$  be given. Let  $k2\_rfunct\_3 : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  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  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_0 : \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k4\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

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

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.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (v3\_xxreal\_0 X1)) \Rightarrow (v3\_xxreal\_0 X0))) \quad (4)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (v2\_xxreal\_0 X0)) \Rightarrow (v2\_xxreal\_0 X1))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0 X0) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow (k6\_xcmplx\_0 (k4\_xcmplx\_0 X0) (k4\_xcmplx\_0 X1) = k6\_xcmplx\_0 X1 X0) \quad (6)$$

Assume the following.

$$(m2\_subset\_1\ np\_0\ k1\_numbers\ k5\_numbers) \wedge ((m1\_subset\_1\ np\_0\ k5\_numbers) \wedge (m1\_subset\_1\ np\_0\ k1\_numbers)) \quad (7)$$

Assume the following.

$$v1\_xboole\_0\ np\_0 \quad (8)$$

Assume the following.

$$k4\_xcmplx\_0\ np\_0 = np\_0 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k1\_numbers) \wedge (v1\_xreal\_0\ X1)) \Rightarrow (k9\_real\_1\ X0\ X1 = k6\_xcmplx\_0\ X0\ X1) \quad (10)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (11)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (12)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0) \Rightarrow (k4\_xcmplx\_0\ (k4\_xcmplx\_0\ X0) = X0) \quad (13)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow ((v1\_xcmplx\_0\ (k4\_xcmplx\_0\ X0)) \wedge (v1\_xreal\_0\ (k4\_xcmplx\_0\ X0))) \quad (14)$$

Assume the following.

$$\forall X0.((\neg v3\_xxreal\_0\ X0) \wedge (v1\_xreal\_0\ X0)) \Rightarrow ((v1\_xcmplx\_0\ (k4\_xcmplx\_0\ X0)) \wedge (\neg v2\_xxreal\_0\ (k4\_xcmplx\_0\ X0))) \quad (15)$$

Assume the following.

$$\forall X0.((\neg v2\_xxreal\_0\ X0) \wedge (v1\_xreal\_0\ X0)) \Rightarrow ((v1\_xcmplx\_0\ (k4\_xcmplx\_0\ X0)) \wedge (\neg v3\_xxreal\_0\ (k4\_xcmplx\_0\ X0))) \quad (16)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (m1\_subset\_1\ (k1\_rfunct\_3\ X0)\ k1\_numbers) \quad (17)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (k2\_rfunct\_3\ X0 = k4\_xxreal\_0\ (k4\_xcmplx\_0\ X0)\ k6\_numbers) \quad (18)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (k1\_rfunct\_3 X0 = k4\_xxreal\_0 X0 k6\_numbers) \quad (19)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X1 X0) \Rightarrow (k4\_xxreal\_0 X0 X1 = X0)) \wedge ((\neg r1\_xxreal\_0 X1 X0) \Rightarrow (k4\_xxreal\_0 X0 X1 = X1)))) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow ((r1\_xxreal\_0 X0 X1) \vee (r1\_xxreal\_0 X1 X0)) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow (k4\_xxreal\_0 X0 X1 = k4\_xxreal\_0 X1 X0) \quad (22)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (23)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xcmplx\_0 X0) \quad (24)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\neg v3\_xxreal\_0 X0) \quad (25)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (26)$$

**Theorem 1**

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (X0 = k9\_real\_1 (k1\_rfunct\_3 X0) (k2\_rfunct\_3 X0))$$