

## t38\_rat\_1

(TMJyVF2mKNtkTRxJHaouvWbRVyqLY2pMtXC)

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Let  $v1\_rat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_xreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k2\_rat\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_rat\_1 X0) \Rightarrow ((\neg(\neg r1\_xreal\_0 k6\_numbers X0) \wedge (r1\_xreal\_0 k6\_numbers (k2\_rat\_1 X0))) \wedge (\neg(\neg r1\_xreal\_0 k6\_numbers (k2\_rat\_1 X0)) \wedge (r1\_xreal\_0 k6\_numbers X0))) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((r1\_xreal\_0 X0 X1) \wedge (r1\_xreal\_0 X1 X0)) \Rightarrow (X0 = X1)) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_rat\_1 X0) \Rightarrow ((k2\_rat\_1 X0 = k6\_numbers) \Leftrightarrow (X0 = k6\_numbers)) \quad (4)$$

Assume the following.

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

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (6)$$

Assume the following.

$$\exists X0.(v1\_xboole\_0 X0) \wedge ((v1\_xcmplx\_0 X0) \wedge ((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X0))) \quad (7)$$

Assume the following.

$$\exists X0.(m1\_subset\_1 X0 k1\_numbers) \wedge ((v1\_xxreal\_0 X0) \wedge ((v1\_xcmplx\_0 X0) \wedge ((v1\_xreal\_0 X0) \wedge (v1\_int\_1 X0)))) \quad (8)$$

Assume the following.

$$\forall X0.(v1\_rat\_1 X0) \Rightarrow (v1\_int\_1 (k2\_rat\_1 X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow ((r1\_xxreal\_0 X0 X1) \vee (r1\_xxreal\_0 X1 X0)) \quad (10)$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\forall X0.(v1\_rat\_1 X0) \Rightarrow (v1\_xreal\_0 X0) \quad (13)$$

**Theorem 1**

$$\forall X0.(v1\_rat\_1 X0) \Rightarrow ((r1\_xxreal\_0 X0 k6\_numbers) \Leftrightarrow (r1\_xxreal\_0 (k2\_rat\_1 X0) k6\_numbers))$$