

## t217\_xreal\_1

(TMXBj8YTWx1ChaYNrH8SgcKMUEuTYh7r2ir)

October 27, 2020

Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  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  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_0 : \iota$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  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.

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

Assume the following.

$$((v2\_xxreal\_0 np\_2) \wedge (m2\_subset\_1 np\_2 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_2 k5\_numbers) \wedge (m1\_subset\_1 np\_2 k1\_numbers)) \quad (4)$$

Assume the following.

$$((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \quad (5)$$

Assume the following.

$$v1\_xboole\_0 np\_0 \quad (6)$$

Assume the following.

$$k4\_xcmplx\_0 \ np\_0 = np\_0 \quad (7)$$

Assume the following.

$$k3\_xcmplx\_0 \ (k7\_xcmplx\_0 \ np\_1 \ np\_2) \ np\_2 = np\_1 \quad (8)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (9)$$

Assume the following.

$$\exists X0.(v1\_xboole\_0 \ X0) \wedge ((v1\_xcmplx\_0 \ X0) \wedge ((v1\_xxreal\_0 \ X0) \wedge (v1\_xreal\_0 \ X0))) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_xreal\_0 \ X0) \Rightarrow (\forall X1.(v1\_xreal\_0 \ X1) \Rightarrow (\forall X2. \\ (v1\_xreal\_0 \ X2) \Rightarrow ((r1\_xxreal\_0 \ X0 \ (k2\_xcmplx\_0 \ X1 \ X2)) \Rightarrow (r1\_xxreal\_0 \\ (k6\_xcmplx\_0 \ X0 \ X1 \ X2)))))) \quad (11) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_xreal\_0 \ X0) \Rightarrow (\forall X1.(v1\_xreal\_0 \ X1) \Rightarrow (\forall X2. \\ (v1\_xreal\_0 \ X2) \Rightarrow (((r1\_xxreal\_0 \ X0 \ X1) \wedge (r1\_xxreal\_0 \ k6\_numbers \\ X2)) \Rightarrow (r1\_xxreal\_0 \ (k3\_xcmplx\_0 \ X0 \ X2) \ (k3\_xcmplx\_0 \ X1 \ X2)))))) \quad (12) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 \ X0) \wedge (v1\_xreal\_0 \ X1)) \Rightarrow (v1\_xreal\_0 \ (k7\_xcmplx\_0 \ X0 \ X1)) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 \ X0) \wedge (v1\_xreal\_0 \ X1)) \Rightarrow (v1\_xreal\_0 \ (k3\_xcmplx\_0 \ X0 \ X1)) \quad (14)$$

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.

$$\forall X0.\forall X1.((v1\_xcmplx\_0 \ X0) \wedge (v1\_xcmplx\_0 \ X1)) \Rightarrow (k3\_xcmplx\_0 \ X0 \ X1 = k3\_xcmplx\_0 \ X1 \ X0) \quad (16)$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0 \ X0) \wedge (v3\_xxreal\_0 \ X0)) \Rightarrow ((\neg v1\_xboole\_0 \ X0) \wedge ((v1\_xreal\_0 \ X0) \wedge (\neg v2\_xxreal\_0 \ X0))) \quad (17)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xxreal\_0 X0) \quad (18)$$

Assume the following.

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

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xreal\_0 X0) \quad (20)$$

**Theorem 1**

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow((r1\_xxreal\_0 X0 (k7\_xcmplx\_0 np\_1 np\_2))\Rightarrow(r1\_xxreal\_0 (k6\_xcmplx\_0 (k3\_xcmplx\_0 np\_2 X0) np\_1) k6\_numbers))$$