

# l11\_bhsp\_7

(TMKqzjF3zisvaN13NizYC986Qczz7gAKMZb)

October 27, 2020

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  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k18\_complex1 : \iota \Rightarrow \iota$  be given. Let  $k10\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k1\_real\_1 : \iota \Rightarrow \iota$  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  $np\_0 : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  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.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow ((r1\_xxreal\_0 (k1\_real\_1 (k18\_complex1 X0)) X0) \wedge (r1\_xxreal\_0 X0 (k18\_complex1 X0))) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 k6\_numbers)) \Rightarrow (r1\_xxreal\_0 (k18\_complex1 X1) (k18\_complex1 X0)))) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\forall X2.(v1\_xreal\_0 X2) \Rightarrow (\neg (r1\_xxreal\_0 X0 k6\_numbers) \wedge ((\neg r1\_xxreal\_0 X2 X1) \wedge (r1\_xxreal\_0 X2 (k2\_xcmplx\_0 X1 X0)))))) \quad (4)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow ((X0 = k6\_numbers) \Leftrightarrow (k18\_complex1 X0 = k6\_numbers)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (6)$$

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.

$$r1\_xxreal\_0\ np\_0\ np\_0 \quad (9)$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0\ X0) \wedge (v1\_xreal\_0\ X1)) \Rightarrow (k10\_binop\_2\ X0\ X1 = k6\_xcmplx\_0\ X0\ X1) \quad (12)$$

Assume the following.

$$\exists X0.(m1\_subset\_1\ X0\ k1\_numbers) \wedge ((v1\_xxreal\_0\ X0) \wedge ((v1\_xcmplx\_0\ X0) \wedge ((v1\_xreal\_0\ X0) \wedge (v1\_int\_1\ X0)))) \quad (13)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xreal\_0\ X1) \Rightarrow (((r1\_xxreal\_0\ X0\ X1) \wedge (r1\_xxreal\_0\ X1\ X0)) \Rightarrow (X0 = X1))) \quad (14)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xreal\_0\ X1) \Rightarrow (\neg(\neg(r1\_xxreal\_0\ X1\ X0) \wedge (r1\_xxreal\_0\ k6\_numbers\ (k6\_xcmplx\_0\ X0\ X1)))))) \quad (15)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xreal\_0\ X1) \Rightarrow (\forall X2.(v1\_xreal\_0\ X2) \Rightarrow ((r1\_xxreal\_0\ (k6\_xcmplx\_0\ X0\ X1)\ X2) \Rightarrow (r1\_xxreal\_0\ X0\ (k2\_xcmplx\_0\ X1\ X2)))))) \quad (16)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0) \Rightarrow (m1\_subset\_1\ (k18\_complex1\ X0)\ k1\_numbers) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xreal\_0 X1))\Rightarrow(m1\_subset\_1 (k10\_binop\_2 X0 X1) k1\_numbers) \quad (18)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Leftrightarrow(X0 \in k1\_numbers) \quad (19)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xxreal\_0 X0) \quad (20)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xcmplx\_0 X0) \quad (21)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xreal\_0 X0) \quad (22)$$

**Theorem 1**

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(\forall X1.(v1\_xreal\_0 X1)\Rightarrow((\forall X2. (m1\_subset\_1 X2 k1\_numbers)\Rightarrow(\neg(\neg r1\_xxreal\_0 X2 k6\_numbers)\wedge (r1\_xxreal\_0 X2 (k18\_complex1 (k10\_binop\_2 X0 X1))))))\Rightarrow(X0 = X1)))$$