

t15\_extreal2  
(TMKKeK3C7MvY6o6apmbnfBBiVYf38W5pQTE)

October 27, 2020

Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_numbers : \iota$  be given. Let  $k1\_supinf\_1 : \iota$  be given. Let  $k2\_supinf\_1 : \iota$  be given. Let  $k1\_extreal1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_extreal1 : \iota \Rightarrow \iota$  be given. Let  $k2\_extreal1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_mesfunc1 : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $np\_0 : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_xxreal\_0 : \iota$  be given. Let  $k6\_xxreal\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xxreal\_0 : \iota$  be given. Let  $k4\_xxreal\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k5\_xxreal\_3 : \iota \Rightarrow \iota$  be given. Let  $k2\_supinf\_2 : \iota \Rightarrow \iota$  be given. Assume the following.

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

Assume the following.

$$v1\_xboole\_0 np\_0 \quad (2)$$

Assume the following.

$$r1\_xxreal\_0 np\_0 np\_0 \quad (3)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (4)$$

Assume the following.

$$k2\_supinf\_1 = k2\_xxreal\_0 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k7\_numbers) \wedge (m1\_subset\_1 X1 k7\_numbers)) \Rightarrow (k2\_extreal1 X0 X1 = k6\_xxreal\_3 X0 X1) \quad (6)$$

Assume the following.

$$k1\_supinf\_1 = k1\_xxreal\_0 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k7\_numbers)\wedge(m1\_subset\_1 X1 k7\_numbers))\Rightarrow(k1\_extreal1 X0 X1 = k4\_xxreal\_3 X0 X1) \quad (8)$$

Assume the following.

$$\exists X0.(v1\_xboole\_0 X0)\wedge((v1\_xcmplx\_0 X0)\wedge((v1\_xxreal\_0 X0)\wedge(v1\_xxreal\_0 X0))) \quad (9)$$

Assume the following.

$$(v1\_xboole\_0 (k5\_xxreal\_3 k1\_xxreal\_0))\wedge(v1\_xxreal\_0 (k5\_xxreal\_3 k1\_xxreal\_0)) \quad (10)$$

Assume the following.

$$(v1\_xboole\_0 (k5\_xxreal\_3 k2\_xxreal\_0))\wedge(v1\_xxreal\_0 (k5\_xxreal\_3 k2\_xxreal\_0)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_xboole\_0 X0)\wedge(v1\_xxreal\_0 X0))\wedge(v1\_xxreal\_0 X1))\Rightarrow((v1\_xboole\_0 (k4\_xxreal\_3 X0 X1))\wedge(v1\_xxreal\_0 (k4\_xxreal\_3 X0 X1))) \quad (12)$$

Assume the following.

$$m1\_subset\_1 k8\_mesfunc1 k7\_numbers \quad (13)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k7\_numbers)\Rightarrow(m1\_subset\_1 (k3\_extreal1 X0) k7\_numbers) \quad (14)$$

Assume the following.

$$m1\_subset\_1 k2\_supinf\_1 k7\_numbers \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k7\_numbers)\wedge(m1\_subset\_1 X1 k7\_numbers))\Rightarrow(m1\_subset\_1 (k2\_extreal1 X0 X1) k7\_numbers) \quad (16)$$

Assume the following.

$$m1\_subset\_1 k1\_supinf\_1 k7\_numbers \quad (17)$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0 X0)\Rightarrow(\forall X1.(v1\_xxreal\_0 X1)\Rightarrow(k6\_xxreal\_3 X0 X1 = k4\_xxreal\_3 X0 (k5\_xxreal\_3 X1))) \quad (18)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k7\_numbers) \Rightarrow (((r1\_xxreal\_0 k6\_numbers X0) \Rightarrow (k3\_extreal1 X0 = X0)) \wedge ((\neg r1\_xxreal\_0 k6\_numbers X0) \Rightarrow (k3\_extreal1 X0 = k2\_supinf\_2 X0))) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow (k4\_xxreal\_3 X0 X1 = k4\_xxreal\_3 X1 X0) \quad (20)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k7\_numbers) \Rightarrow (v1\_xxreal\_0 X0) \quad (21)$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1 X0 k7\_numbers) \Rightarrow (((X0 = k1\_supinf\_1) \vee (X0 = k2\_supinf\_1)) \Rightarrow (k1\_extreal1 (k3\_extreal1 X0) (k3\_extreal1 (k2\_extreal1 k8\_mesfunc1 X0)) = k6\_numbers))$$