

t23\_extreal2 (TM-  
PzpCEHh9Hn8A4w2dBpAFjetAMbQnExRQz)

October 27, 2020

Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_numbers : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_extreal1 : \iota \Rightarrow \iota$  be given. Let  $k3\_supinf\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xxreal\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow (\forall X3.(v1\_xxreal\_0 X3) \Rightarrow (((r1\_xxreal\_0 \\ & X0 X1) \wedge (r1\_xxreal\_0 X2 X3)) \Rightarrow (r1\_xxreal\_0 (k1\_xxreal\_3 X0 X2) ( \\ & k1\_xxreal\_3 X1 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow (((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X2)) \Rightarrow \\ & (r1\_xxreal\_0 X0 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k7\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 k7\_numbers) \Rightarrow (r1\_xxreal\_0 (k3\_extreal1 (k3\_supinf\_2 X0 X1)) \\ & (k3\_supinf\_2 (k3\_extreal1 X0) (k3\_extreal1 X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1\_subset\_1 X0 k7\_numbers) \wedge (m1\_subset\_1 \\ & X1 k7\_numbers)) \Rightarrow (k3\_supinf\_2 X0 X1 = k1\_xxreal\_3 X0 X1) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1\_subset\_1 X0 k7\_numbers) \wedge (m1\_subset\_1 \\ & X1 k7\_numbers)) \Rightarrow (m1\_subset\_1 (k3\_supinf\_2 X0 X1) k7\_numbers) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k7\_numbers) \Rightarrow (m1\_subset\_1 (k3\_extreal1 \\ & X0) k7\_numbers) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k7\_numbers) \Rightarrow (v1\_xxreal\_0 X0) \quad (7)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k7\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 k7\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k7\_numbers) \Rightarrow (\forall X3. \\ & (m1\_subset\_1 X3 k7\_numbers) \Rightarrow (((r1\_xxreal\_0 (k3\_extreal1 X0) \\ & X1) \wedge (r1\_xxreal\_0 (k3\_extreal1 X2) X3)) \Rightarrow (r1\_xxreal\_0 (k3\_extreal1 \\ & (k3\_supinf\_2 X0 X2)) (k3\_supinf\_2 X1 X3)))))) \end{aligned}$$