

t12\_sprect\_5 (TMTMDnd-  
WdL9aNJu3qLNs1hhXK7kS6r39pVG)

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Let  $v3\_funct.1 : \iota \Rightarrow o$  be given. Let  $v1\_xboole.0 : \iota \Rightarrow o$  be given. Let  $v1\_finseq.6 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct.0 : \iota \Rightarrow \iota$  be given. Let  $k15\_euclid : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $v1\_topreal1 : \iota \Rightarrow o$  be given. Let  $v2\_topreal1 : \iota \Rightarrow o$  be given. Let  $v1\_goboard5 : \iota \Rightarrow o$  be given. Let  $v2\_goboard5 : \iota \Rightarrow o$  be given. Let  $m2\_finseq.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple.0 : \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal.0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_finseq.4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_finseq.6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat.1 : \iota \Rightarrow o$  be given. Let  $v1\_funct.1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq.1 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc.1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal.0 : \iota \Rightarrow o$  be given. Let  $m1\_finseq.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k2\_zfmisc.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v1\_xreal.0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat.1 X0) \wedge ((v1\_funct.1 X0) \wedge (v1\_finseq.1 X0))) \Rightarrow \\ (\forall X1. \forall X2. ((X1 \in k10\_xtuple.0 X0) \wedge ((X2 \in k10\_xtuple.0 \\ X0) \wedge (k4\_finseq.4 X0 X1 = k4\_finseq.4 X0 X2))) \Rightarrow (X1 = X2)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset.1 X1 (k1\_zfmisc.1 X2))) \Rightarrow (m1\_subset.1 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset.1 X0 X1) \Rightarrow ((v1\_xboole.0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0. (v1\_xxreal.0 X0) \Rightarrow (\forall X1. (v1\_xxreal.0 X1) \Rightarrow ((r1\_xxreal.0 X0 X1) \wedge (r1\_xxreal.0 X1 X0)) \Rightarrow (X0 = X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v3\_funct\_1 X0) \wedge ((\neg v1\_xboole\_0 X0) \wedge ((v1\_finseq\_6 \\ & X0 (u1\_struct\_0 (k15\_euclid np\_2))) \wedge ((v1\_topreal1 X0) \wedge ((v2\_topreal1 \\ & X0) \wedge ((v1\_goboard5 X0) \wedge ((v2\_goboard5 X0) \wedge (m2\_finseq\_1 X0 (u1\_struct\_0 \\ & (k15\_euclid np\_2)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & (k15\_euclid np\_2))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ & (k15\_euclid np\_2))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\ & (k15\_euclid np\_2))) \Rightarrow (\neg (X1 \in k10\_xtuple\_0 X0) \wedge ((X2 \in k10\_xtuple\_0 \\ & X0) \wedge ((X3 \in k10\_xtuple\_0 X0) \wedge ((\neg r1\_xxreal\_0 (k4\_finseq\_4 X0 X2) \\ & (k4\_finseq\_4 X0 X1)) \wedge ((\neg r1\_xxreal\_0 (k4\_finseq\_4 X0 X3) (k4\_finseq\_4 \\ & X0 X2)) \wedge (r1\_xxreal\_0 (k4\_finseq\_4 (k1\_finseq\_6 (u1\_struct\_0 \\ & (k15\_euclid np\_2)) X0 X3) X2) (k4\_finseq\_4 (k1\_finseq\_6 (u1\_struct\_0 \\ & (k15\_euclid np\_2)) X0 X3) X1)))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (6)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (7)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1) \wedge (v3\_ordinal1 k4\_ordinal1) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Rightarrow ((v1\_funct\_1 X1) \wedge ( \\ & (v1\_finseq\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers \\ & X0)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_finseq\_1 X1 X0) \Rightarrow ((v1\_relat\_1 X1) \wedge ( \\ & (v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \end{aligned} \quad (10)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 \\ & X0))) \Rightarrow (m1\_subset\_1 (k4\_finseq\_4 X0 X1) k5\_numbers) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 X0) \wedge ((m1\_finseq\_1 \\ & X1 X0) \wedge (m1\_subset\_1 X2 X0))) \Rightarrow (m2\_finseq\_1 (k1\_finseq\_6 X0 X1 X2) \\ & X0) \end{aligned} \quad (13)$$

Assume the following.

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

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xxreal\_0 X0) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_xboole\_0 X0)\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 X0)))\Rightarrow(v1\_xboole\_0 X2)) \quad (16)$$

Assume the following.

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

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v3\_funct\_1 X0)\wedge((\neg v1\_xboole\_0 X0)\wedge((v1\_finseq\_6 \\ & X0 (u1\_struct\_0 (k15\_euclid np\_2))))\wedge((v1\_topreal1 X0)\wedge((v2\_topreal1 \\ & X0)\wedge((v1\_goboard5 X0)\wedge((v2\_goboard5 X0)\wedge(m2\_finseq\_1 X0 (u1\_struct\_0 \\ & (k15\_euclid np\_2))))))))))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & (k15\_euclid np\_2)))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ & (k15\_euclid np\_2)))\Rightarrow(\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\ & (k15\_euclid np\_2)))\Rightarrow(((X1 \in k10\_xtuple\_0 X0)\wedge((X2 \in k10\_xtuple\_0 \\ & X0)\wedge((X3 \in k10\_xtuple\_0 X0)\wedge(r1\_xxreal\_0 (k4\_finseq\_4 X0 X1) ( \\ & k4\_finseq\_4 X0 X2))))))\Rightarrow((r1\_xxreal\_0 (k4\_finseq\_4 X0 X3) (k4\_finseq\_4 \\ & X0 X2))\vee(r1\_xxreal\_0 (k4\_finseq\_4 (k1\_finseq\_6 (u1\_struct\_0 \\ & (k15\_euclid np\_2)) X0 X3) X1) (k4\_finseq\_4 (k1\_finseq\_6 (u1\_struct\_0 \\ & (k15\_euclid np\_2)) X0 X3) X2)))))) \end{aligned}$$