

t7\_rinfsup2  
(TMJVSgAtr8cjfjzsNrtQ8XWikD4sh8HRfgG)

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Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k7\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_valued\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k12\_supinf\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v6\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v7\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v8\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v2\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \quad (3)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v2\_valued\_0 X0)))\Rightarrow(k12\_supinf\_2 X0 X1 = k1\_funct\_1 X0 X1) \quad (6)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1)\wedge(v3\_ordinal1 k4\_ordinal1) \quad (7)$$

Assume the following.

$$\neg v1\_xboole\_0 k7\_numbers \quad (8)$$

Assume the following.

$$v2\_membered k7\_numbers \quad (9)$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \quad (10)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1)))\Rightarrow(((X1\neq k1\_xboole\_0)\Rightarrow((v1\_funct\_2 X2 X0 \\ & X1)\Leftrightarrow(X0 = k1\_relset\_1 X0 X2)))\wedge((X1 = k1\_xboole\_0)\Rightarrow((v1\_funct\_2 \\ & X2 X0 X1)\Leftrightarrow(X2 = k1\_xboole\_0)))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v2\_valued\_0 X0)))\Rightarrow \\ & ((v8\_valued\_0 X0)\Leftrightarrow(\forall X1.(v1\_xxreal\_0 X1)\Rightarrow(\forall X2. \\ & (v1\_xxreal\_0 X2)\Rightarrow(((X1 \in k9\_xtuple\_0 X0)\wedge((X2 \in k9\_xtuple\_0 X0)\wedge \\ & (r1\_xxreal\_0 X1 X2))\Rightarrow(r1\_xxreal\_0 (k1\_funct\_1 X0 X2) (k1\_funct\_1 \\ & X0 X1)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v2\_valued\_0 X0)))\Rightarrow \\ & ((v7\_valued\_0 X0)\Leftrightarrow(\forall X1.(v1\_xxreal\_0 X1)\Rightarrow(\forall X2. \\ & (v1\_xxreal\_0 X2)\Rightarrow(((X1 \in k9\_xtuple\_0 X0)\wedge((X2 \in k9\_xtuple\_0 X0)\wedge \\ & (r1\_xxreal\_0 X1 X2))\Rightarrow(r1\_xxreal\_0 (k1\_funct\_1 X0 X1) (k1\_funct\_1 \\ & X0 X2)))))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v2\_valued\_0 X0)))\Rightarrow \\ & ((v6\_valued\_0 X0)\Leftrightarrow(\forall X1.(v1\_xxreal\_0 X1)\Rightarrow(\forall X2. \\ & (v1\_xxreal\_0 X2)\Rightarrow(\neg(X1 \in k9\_xtuple\_0 X0)\wedge((X2 \in k9\_xtuple\_0 X0)\wedge \\ & ((\neg r1\_xxreal\_0 X2 X1)\wedge(r1\_xxreal\_0 (k1\_funct\_1 X0 X1) (k1\_funct\_1 \\ & X0 X2)))))))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v2\_valued\_0 X0))) \Rightarrow \\ & \quad ((v5\_valued\_0 X0) \Leftrightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xxreal\_0 X2) \Rightarrow (\neg(X1 \in k9\_xtuple\_0 X0) \wedge ((X2 \in k9\_xtuple\_0 X0) \wedge \\ & ((\neg r1\_xxreal\_0 X2 X1) \wedge (r1\_xxreal\_0 (k1\_funct\_1 X0 X2) (k1\_funct\_1 \\ & \quad X0 X1)))))))))) \end{aligned} \tag{16}$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \tag{17}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \tag{18}$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_xreal\_0 X0) \tag{19}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v4\_relat\_1 X2 X0) \wedge (v5\_relat\_1 X2 X1)) \end{aligned} \tag{20}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (v1\_xboole\_0 X1)) \tag{21}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \end{aligned} \tag{22}$$

Assume the following.

$$\forall X0. \forall X1.(v2\_membered X1) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v2\_valued\_0 X2)) \tag{23}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((v1\_funct\_1 X0) \wedge ((v1\_funct\_2 X0 k5\_numbers k7\_numbers) \wedge \\
& (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers k7\_numbers)))))) \Rightarrow \\
& (((v5\_valued\_0 X0) \Rightarrow (\forall X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow \\
& (\forall X2.(m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow (\neg(\neg r1\_xxreal\_0 \\
& X1 X2) \wedge (r1\_xxreal\_0 (k12\_supinf\_2 X0 X1) (k12\_supinf\_2 X0 X2)))))) \wedge \\
& (((\forall X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (\forall X2. \\
& (m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow (\neg(\neg r1\_xxreal\_0 X1 X2) \wedge \\
& (r1\_xxreal\_0 (k12\_supinf\_2 X0 X1) (k12\_supinf\_2 X0 X2)))))) \Rightarrow (v5\_valued\_0 \\
& X0)) \wedge ((v6\_valued\_0 X0) \Rightarrow (\forall X1.(m2\_subset\_1 X1 k1\_numbers \\
& k5\_numbers) \Rightarrow (\forall X2.(m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow \\
& (\neg(\neg r1\_xxreal\_0 X1 X2) \wedge (r1\_xxreal\_0 (k12\_supinf\_2 X0 X2) (k12\_supinf\_2 \\
& X0 X1)))))) \wedge ((\forall X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow \\
& (\forall X2.(m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow (\neg(\neg r1\_xxreal\_0 \\
& X1 X2) \wedge (r1\_xxreal\_0 (k12\_supinf\_2 X0 X2) (k12\_supinf\_2 X0 X1)))))) \Rightarrow \\
& (v6\_valued\_0 X0)) \wedge ((v7\_valued\_0 X0) \Rightarrow (\forall X1.(m2\_subset\_1 \\
& X1 k1\_numbers k5\_numbers) \Rightarrow (\forall X2.(m2\_subset\_1 X2 k1\_numbers \\
& k5\_numbers) \Rightarrow ((r1\_xxreal\_0 X2 X1) \Rightarrow (r1\_xxreal\_0 (k12\_supinf\_2 \\
& X0 X2) (k12\_supinf\_2 X0 X1)))))) \wedge ((\forall X1.(m2\_subset\_1 X1 \\
& k1\_numbers k5\_numbers) \Rightarrow (\forall X2.(m2\_subset\_1 X2 k1\_numbers \\
& k5\_numbers) \Rightarrow ((r1\_xxreal\_0 X2 X1) \Rightarrow (r1\_xxreal\_0 (k12\_supinf\_2 \\
& X0 X2) (k12\_supinf\_2 X0 X1)))))) \Rightarrow (v7\_valued\_0 X0)) \wedge ((v8\_valued\_0 \\
& X0) \Rightarrow (\forall X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (\forall X2. \\
& (m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow ((r1\_xxreal\_0 X2 X1) \Rightarrow \\
& (r1\_xxreal\_0 (k12\_supinf\_2 X0 X1) (k12\_supinf\_2 X0 X2)))))) \wedge ( \\
& (\forall X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (\forall X2. \\
& (m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow ((r1\_xxreal\_0 X2 X1) \Rightarrow \\
& (r1\_xxreal\_0 (k12\_supinf\_2 X0 X1) (k12\_supinf\_2 X0 X2)))))) \Rightarrow (v8\_valued\_0 \\
& X0))))))
\end{aligned}$$