

# t3\_gobrd10 (TMQWPER- WrH2rtVJrAVLtR2sJ7FcRUivbXfU)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $r2\_gobrd10 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $r1\_gobrd10 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 k5\_numbers) \Rightarrow ((r1\_gobrd10 X0 X1) \Rightarrow (r1\_gobrd10 (k2\_nat\_1 X0 np\_1) \\ (k2\_nat\_1 X1 np\_1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \quad (2)$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k5\_numbers) \wedge (m1\_subset\_1 \\ X1 k5\_numbers)) \Rightarrow (\neg r1\_gobrd10 X0 X0) \quad (5)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1) \wedge (v3\_ordinal1 k4\_ordinal1) \quad (6)$$

Assume the following.

$$m1\_subset\_1\ k5\_numbers\ (k1\_zfmisc\_1\ k1\_numbers) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k5\_numbers)\wedge(v7\_ordinal1\ X1))\Rightarrow(m2\_subset\_1\ (k2\_nat\_1\ X0\ X1)\ k1\_numbers\ k5\_numbers) \quad (8)$$

Assume the following.

$$\begin{aligned} &\forall X0.(m1\_subset\_1\ X0\ k5\_numbers)\Rightarrow(\forall X1.(m1\_subset\_1 \\ &\quad X1\ k5\_numbers)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ k5\_numbers)\Rightarrow(\forall X3. \\ &\quad (m1\_subset\_1\ X3\ k5\_numbers)\Rightarrow((r2\_gobrd10\ X0\ X1\ X2\ X3)\Leftrightarrow(((r1\_gobrd10 \\ &\quad X0\ X2)\wedge(X1 = X3))\vee((X0 = X2)\wedge(r1\_gobrd10\ X1\ X3)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \quad (10)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \quad (11)$$

**Theorem 1**

$$\begin{aligned} &\forall X0.(m1\_subset\_1\ X0\ k5\_numbers)\Rightarrow(\forall X1.(m1\_subset\_1 \\ &\quad X1\ k5\_numbers)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ k5\_numbers)\Rightarrow(\forall X3. \\ &\quad (m1\_subset\_1\ X3\ k5\_numbers)\Rightarrow((r2\_gobrd10\ X0\ X2\ X1\ X3)\Rightarrow(r2\_gobrd10 \\ &\quad (k2\_nat\_1\ X0\ np\_1)\ (k2\_nat\_1\ X2\ np\_1)\ (k2\_nat\_1\ X1\ np\_1)\ (k2\_nat\_1 \\ &\quad \quad X3\ np\_1)))))) \end{aligned}$$