

# t17\_moebius1

(TMNJqgoU35kWyKikbD3sFFsijEvdLZXV3NQ)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_int\_2 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k11\_nat\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_polynom2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_newton : \iota$  be given. Let  $k13\_nat\_3 : \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_newton : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k13\_pre\_poly : \iota \Rightarrow \iota$  be given. Let  $k12\_nat\_3 : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_poly : \iota \Rightarrow o$  be given. Let  $k10\_nat\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Rightarrow ((v1\_xboole\_0 X0) \vee ((v2\_xxreal\_0 X1) \vee (v3\_xxreal\_0 X0)))))) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$\forall X0.((v7\_ordinal1 X0) \wedge (v1\_int\_2 X0)) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge (v7\_ordinal1 X1)) \Rightarrow ((k11\_nat\_3 X1 X0 \neq k6\_numbers) \Rightarrow (k1\_seq\_1 (k13\_nat\_3 X1) X0 = k1\_newton X0 (k11\_nat\_3 X1 X0)))) \quad (3)$$

Assume the following.

$$\forall X0.((v7\_ordinal1 X0) \wedge (v1\_int\_2 X0)) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge (v7\_ordinal1 X1)) \Rightarrow ((k11\_nat\_3 X1 X0 = k6\_numbers) \Rightarrow (k1\_seq\_1 (k13\_nat\_3 X1) X0 = k6\_numbers))) \quad (4)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(X1 \in k13\_pre\_poly\ (k12\_nat\_3\ X0)) \Rightarrow ((v7\_ordinal1\ X1) \wedge (v1\_int\_2\ X1))) \quad (5)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v3\_valued\_0\ X0))) \Rightarrow (k1\_seq\_1\ X0\ X1 = k1\_funct\_1\ X0\ X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ X0) \wedge (v1\_funct\_1\ X1) \wedge ((v1\_partfun1\ X1\ X0) \wedge ((v4\_valued\_0\ X1) \wedge (v2\_pre\_poly\ X1)))))) \Rightarrow (k1\_polynom2\ X0\ X1 = k13\_pre\_poly\ X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0) \wedge (v7\_ordinal1\ X1)) \Rightarrow (k11\_nat\_3\ X0\ X1 = k10\_nat\_3\ X0\ X1) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0) \wedge (v7\_ordinal1\ X0)) \Rightarrow ((v1\_relat\_1\ (k13\_nat\_3\ X0)) \wedge ((v4\_relat\_1\ (k13\_nat\_3\ X0)\ k10\_newton) \wedge ((v1\_funct\_1\ (k13\_nat\_3\ X0)) \wedge ((v1\_partfun1\ (k13\_nat\_3\ X0)\ k10\_newton) \wedge ((v4\_valued\_0\ (k13\_nat\_3\ X0)) \wedge (v2\_pre\_poly\ (k13\_nat\_3\ X0)))))))) \quad (10)$$

Assume the following.

$$v1\_xboole\_0\ k1\_xboole\_0 \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v1\_xboole\_0\ X0) \wedge (v7\_ordinal1\ X0)) \wedge (v7\_ordinal1\ X1)) \Rightarrow (\neg v1\_xboole\_0\ (k1\_newton\ X0\ X1)) \quad (12)$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0) \wedge (v7\_ordinal1\ X0)) \Rightarrow ((v1\_relat\_1\ (k12\_nat\_3\ X0)) \wedge ((v4\_relat\_1\ (k12\_nat\_3\ X0)\ k10\_newton) \wedge ((v1\_funct\_1\ (k12\_nat\_3\ X0)) \wedge ((v1\_partfun1\ (k12\_nat\_3\ X0)\ k10\_newton) \wedge (v2\_pre\_poly\ (k12\_nat\_3\ X0)))))) \quad (13)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow ((v1\_relat\_1\ (k12\_nat\_3\ X0)) \wedge ((v4\_relat\_1\ (k12\_nat\_3\ X0)\ k10\_newton) \wedge ((v1\_funct\_1\ (k12\_nat\_3\ X0)) \wedge ((v1\_partfun1\ (k12\_nat\_3\ X0)\ k10\_newton) \wedge (v4\_valued\_0\ (k12\_nat\_3\ X0)))))) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0)\wedge(v7\_ordinal1\ X1))\Rightarrow(v7\_ordinal1\ (k10\_nat\_3\ X0\ X1)) \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1\_xboole\_0\ X0)\wedge(v7\_ordinal1\ X0))\Rightarrow(\forall X1. \\ ((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ k10\_newton)\wedge((v1\_funct\_1\ X1)\wedge \\ (v1\_partfun1\ X1\ k10\_newton))))\Rightarrow((X1 = k13\_nat\_3\ X0)\Leftrightarrow((k13\_pre\_poly \\ X1 = k1\_polynom2\ k10\_newton\ (k12\_nat\_3\ X0))\wedge(\forall X2.(v7\_ordinal1 \\ X2)\Rightarrow((X2 \in k1\_polynom2\ k10\_newton\ (k12\_nat\_3\ X0))\Rightarrow(k1\_funct\_1 \\ X1\ X2 = k1\_newton\ X2\ (k11\_nat\_3\ X0\ X2)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow(\forall X1.(X1 = k13\_pre\_poly\ X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow(k1\_funct\_1\ X0\ X2 \neq k6\_numbers))) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow(X2 \in X1)) \quad (18)$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v4\_valued\_0\ X0))\Rightarrow((v1\_relat\_1\ X0)\wedge(v3\_valued\_0\ X0)) \quad (19)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(v7\_ordinal1\ X0) \quad (20)$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0\ X0)\wedge(v2\_xxreal\_0\ X0))\Rightarrow((\neg v1\_xboole\_0\ X0)\wedge((v1\_xxreal\_0\ X0)\wedge(\neg v3\_xxreal\_0\ X0))) \quad (21)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow((v7\_ordinal1\ X0)\wedge(\neg v3\_xxreal\_0\ X0)) \quad (22)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(v1\_xxreal\_0\ X0) \quad (23)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(v1\_xreal\_0\ X0) \quad (24)$$

Assume the following.

$$\forall X0.((v7\_ordinal1\ X0)\wedge(v1\_int\_2\ X0))\Rightarrow((\neg v1\_xboole\_0\ X0)\wedge((v7\_ordinal1\ X0)\wedge(v1\_int\_2\ X0))) \quad (25)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0) \wedge (v7\_ordinal1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v1\_xboole\_0 X1) \wedge (v7\_ordinal1 X1)) \Rightarrow ((\forall X2.((v7\_ordinal1 \\ & X2) \wedge (v1\_int\_2 X2)) \Rightarrow (r1\_xxreal\_0 (k11\_nat\_3 X0 X2) (k11\_nat\_3 \\ & X1 X2)))) \Rightarrow (r1\_tarski (k1\_polynom2 k10\_newton (k13\_nat\_3 X0)) ( \\ & k1\_polynom2 k10\_newton (k13\_nat\_3 X1)))))) \end{aligned}$$