

## t76\_pzfmisc1

(TMJMD8NE8KXbBQxB5xAUpjUxafxFWP3yGknL)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_relat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (r1\_tarski (k2\_zfmisc\_1 \\ & X0 X1) (k2\_zfmisc\_1 X2 X3)) \Rightarrow ((k2\_zfmisc\_1 X0 X1 = k1\_xboole\_0) \vee \\ & ((r1\_tarski X0 X2) \wedge (r1\_tarski X1 X3))) \end{aligned} \tag{1}$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 \\ & X1 X0) \wedge ((v1\_funct\_1 X1) \wedge (v1\_partfun1 X1 X0)))) \wedge ((v1\_relat\_1 \\ & X2) \wedge ((v4\_relat\_1 X2 X0) \wedge ((v1\_funct\_1 X2) \wedge (v1\_partfun1 X2 X0)))))) \Rightarrow \\ & ((v1\_relat\_1 (k6\_pboole X0 X1 X2)) \wedge ((v4\_relat\_1 (k6\_pboole X0 \\ & X1 X2) X0) \wedge ((v1\_funct\_1 (k6\_pboole X0 X1 X2)) \wedge (v1\_partfun1 (k6\_pboole \\ & X0 X1 X2) X0)))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 X0) \wedge \\ & (v1\_funct\_1 X1) \wedge (v1\_partfun1 X1 X0))) \Rightarrow (\forall X2. ((v1\_relat\_1 \\ & X2) \wedge ((v4\_relat\_1 X2 X0) \wedge ((v1\_funct\_1 X2) \wedge (v1\_partfun1 X2 X0)))) \Rightarrow \\ & ((r2\_pboole X0 X1 X2) \Leftrightarrow (\forall X3. (X3 \in X0) \Rightarrow (r1\_tarski (k1\_funct\_1 \\ & X1 X3) (k1\_funct\_1 X2 X3)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((v1\_relat\_1 X1)\wedge((v4\_relat\_1 X1 X0)\wedge \\
& (v1\_funct\_1 X1)\wedge(v1\_partfun1 X1 X0)))\Rightarrow(\forall X2.((v1\_relat\_1 \\
& X2)\wedge((v4\_relat\_1 X2 X0)\wedge((v1\_funct\_1 X2)\wedge(v1\_partfun1 X2 X0))))\Rightarrow \\
& (\forall X3.((v1\_relat\_1 X3)\wedge((v4\_relat\_1 X3 X0)\wedge((v1\_funct\_1 \\
& X3)\wedge(v1\_partfun1 X3 X0))))\Rightarrow((X3 = k6\_pboole X0 X1 X2)\Leftrightarrow(\forall X4. \\
& (X4 \in X0)\Rightarrow(k1\_funct\_1 X3 X4 = k2\_zfmisc\_1 (k1\_funct\_1 X1 X4) (k1\_funct\_1 \\
& X2 X4))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((v1\_relat\_1 X1)\wedge((v4\_relat\_1 X1 X0)\wedge \\
& (v1\_funct\_1 X1)\wedge(v1\_partfun1 X1 X0)))\Rightarrow((v2\_relat\_1 X1)\Leftrightarrow(\forall X2. \\
& \neg(X2 \in X0)\wedge(v1\_xboole\_0 (k1\_funct\_1 X1 X2))))
\end{aligned} \tag{6}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.\forall X1.((v1\_relat\_1 X1)\wedge((v4\_relat\_1 X1 X0)\wedge \\
& (v1\_funct\_1 X1)\wedge(v1\_partfun1 X1 X0)))\Rightarrow(\forall X2.((v1\_relat\_1 \\
& X2)\wedge((v4\_relat\_1 X2 X0)\wedge((v1\_funct\_1 X2)\wedge(v1\_partfun1 X2 X0))))\Rightarrow \\
& (\forall X3.((v1\_relat\_1 X3)\wedge((v4\_relat\_1 X3 X0)\wedge((v1\_funct\_1 \\
& X3)\wedge(v1\_partfun1 X3 X0))))\Rightarrow(\forall X4.((v1\_relat\_1 X4)\wedge((v4\_relat\_1 \\
& X4 X0)\wedge((v1\_funct\_1 X4)\wedge(v1\_partfun1 X4 X0))))\Rightarrow(((r2\_pboole \\
& X0 (k6\_pboole X0 X1 X2) (k6\_pboole X0 X3 X4))\wedge(v2\_relat\_1 (k6\_pboole \\
& X0 X1 X2))\Rightarrow((r2\_pboole X0 X1 X3)\wedge(r2\_pboole X0 X2 X4))))))
\end{aligned}$$