

# t6\_waybel\_5 (TMVTtGVYn- GqoF5ttVNmxyP7KTwY8L3NALQ1)

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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  $m2\_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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  $k2\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (X1 \in X0) \Rightarrow (k1\_funct\_1 (k2\_funcop\_1 X0 X2) X1 = X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. k7\_funcop\_1 X0 X1 = k2\_funcop\_1 X0 X1 \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 (k2\_funcop\_1 X0 X1)) \wedge ((v4\_relat\_1 (k2\_funcop\_1 X0 X1) X0) \wedge ((v1\_funct\_1 (k2\_funcop\_1 X0 X1)) \wedge (v1\_partfun1 (k2\_funcop\_1 X0 X1) X0))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 (k2\_funcop\_1 X0 X1)) \wedge (v1\_funct\_1 (k2\_funcop\_1 X0 X1)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. v4\_relat\_1 (k2\_funcop\_1 X0 X1) X0 \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 X0) \wedge ((v1\_funct\_1 X1) \wedge (v1\_partfun1 X1 X0)))) \wedge ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 X0) \wedge ((v1\_funct\_1 X2) \wedge (v1\_partfun1 X2 X0)))))) \Rightarrow \\ & (\forall X3. (m2\_pboole X3 X0 X1 X2) \Rightarrow ((v1\_relat\_1 X3) \wedge ((v4\_relat\_1 X3 X0) \wedge ((v1\_funct\_1 X3) \wedge (v1\_partfun1 X3 X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((v1\_relat\_1 X1)\wedge((v4\_relat\_1 X1 X0)\wedge \\
& (v1\_funct\_1 X1)\wedge(v1\_partfun1 X1 X0)))\Rightarrow(\forall X2.((v1\_relat\_1 \\
& X2)\wedge((v4\_relat\_1 X2 X0)\wedge((v1\_funct\_1 X2)\wedge(v1\_partfun1 X2 X0))))\Rightarrow \\
& (\forall X3.((v1\_relat\_1 X3)\wedge((v4\_relat\_1 X3 X0)\wedge((v1\_funct\_1 \\
& X3)\wedge(v1\_partfun1 X3 X0))))\Rightarrow((m2\_pboole X3 X0 X1 X2)\Leftrightarrow(\forall X4. \\
& (X4 \in X0)\Rightarrow((v1\_funct\_1 (k1\_funct\_1 X3 X4))\wedge((v1\_funct\_2 (k1\_funct\_1 \\
& X3 X4) (k1\_funct\_1 X1 X4) (k1\_funct\_1 X2 X4))\wedge(m1\_subset\_1 (k1\_funct\_1 \\
& X3 X4) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k1\_funct\_1 X1 X4) (k1\_funct\_1 \\
& X2 X4))))))))))
\end{aligned} \tag{7}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.((v1\_relat\_1 X2)\wedge((v4\_relat\_1 \\
& X2 X0)\wedge((v1\_funct\_1 X2)\wedge(v1\_partfun1 X2 X0))))\Rightarrow(\forall X3.( \\
& m2\_pboole X3 X0 X2 (k7\_funcop\_1 X0 X1))\Rightarrow(\forall X4.(X4 \in X0)\Rightarrow(( \\
& v1\_funct\_1 (k1\_funct\_1 X3 X4))\wedge((v1\_funct\_2 (k1\_funct\_1 X3 X4) \\
& (k1\_funct\_1 X2 X4) X1)\wedge(m1\_subset\_1 (k1\_funct\_1 X3 X4) (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 (k1\_funct\_1 X2 X4) X1))))))
\end{aligned}$$