

t5\_multop\_1  
(TMXSPDt6vsZs9USV2waR3rLpuRyKEhtFoH4)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_xtuple\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.\forall X2.\forall X3. \\ & \quad \forall X4.\forall X5.((v1\_funct\_1 X5) \wedge ((v1\_funct\_2 X5 (k4\_zfmisc\_1 \\ & \quad X1 X2 X3 X4) X0) \wedge (m1\_subset\_1 X5 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k4\_zfmisc\_1 \\ & \quad X1 X2 X3 X4) X0)))))) \Rightarrow (\forall X6.((v1\_funct\_1 X6) \wedge ((v1\_funct\_2 \\ & \quad X6 (k4\_zfmisc\_1 X1 X2 X3 X4) X0) \wedge (m1\_subset\_1 X6 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & \quad (k4\_zfmisc\_1 X1 X2 X3 X4) X0)))))) \Rightarrow ((\forall X7.\forall X8.\forall X9. \\ & \quad \forall X10.((X7 \in X1) \wedge ((X8 \in X2) \wedge ((X9 \in X3) \wedge (X10 \in X4)))) \Rightarrow (k1\_funct\_1 \\ & \quad X5 (k6\_xtuple\_0 X7 X8 X9 X10) = k1\_funct\_1 X6 (k6\_xtuple\_0 X7 X8 X9 \\ & \quad X10))) \Rightarrow (r2\_funct\_2 (k4\_zfmisc\_1 X1 X2 X3 X4) X0 X5 X6)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & \quad \forall X6.\forall X7.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & \quad ((\neg v1\_xboole\_0 X2) \wedge ((\neg v1\_xboole\_0 X3) \wedge ((m1\_subset\_1 X4 X0) \wedge \\ & \quad ((m1\_subset\_1 X5 X1) \wedge ((m1\_subset\_1 X6 X2) \wedge (m1\_subset\_1 X7 X3)))))))) \Rightarrow \\ & \quad (k5\_domain\_1 X0 X1 X2 X3 X4 X5 X6 X7 = k6\_xtuple\_0 X4 X5 X6 X7) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge \\ & (((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))))))\wedge(m1\_subset\_1 X3 X0)))\Rightarrow(k3\_funct\_2 X0 \\ & X1 X2 X3 = k1\_funct\_1 X2 X3) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge \\ & ((\neg v1\_xboole\_0 X1)\wedge((\neg v1\_xboole\_0 X2)\wedge(\neg v1\_xboole\_0 X3))))\Rightarrow \\ & (\neg v1\_xboole\_0 (k4\_zfmisc\_1 X0 X1 X2 X3)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & \forall X6.\forall X7.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge \\ & ((\neg v1\_xboole\_0 X2)\wedge((\neg v1\_xboole\_0 X3)\wedge((m1\_subset\_1 X4 X0)\wedge \\ & ((m1\_subset\_1 X5 X1)\wedge((m1\_subset\_1 X6 X2)\wedge(m1\_subset\_1 X7 X3))))))))\Rightarrow \\ & (m1\_subset\_1 (k5\_domain\_1 X0 X1 X2 X3 X4 X5 X6 X7) (k4\_zfmisc\_1 X0 \\ & X1 X2 X3)) \end{aligned} \quad (6)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.(\neg v1\_xboole\_0 X1)\Rightarrow \\ & (\forall X2.(\neg v1\_xboole\_0 X2)\Rightarrow(\forall X3.(\neg v1\_xboole\_0 X3)\Rightarrow \\ & (\forall X4.(\neg v1\_xboole\_0 X4)\Rightarrow(\forall X5.((v1\_funct\_1 X5)\wedge \\ & ((v1\_funct\_2 X5 (k4\_zfmisc\_1 X0 X1 X2 X3) X4)\wedge(m1\_subset\_1 X5 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (k4\_zfmisc\_1 X0 X1 X2 X3) X4))))))\Rightarrow(\forall X6.((v1\_funct\_1 \\ & X6)\wedge((v1\_funct\_2 X6 (k4\_zfmisc\_1 X0 X1 X2 X3) X4)\wedge(m1\_subset\_1 \\ & X6 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k4\_zfmisc\_1 X0 X1 X2 X3) X4))))))\Rightarrow \\ & ((\forall X7.(m1\_subset\_1 X7 X0)\Rightarrow(\forall X8.(m1\_subset\_1 X8 \\ & X1)\Rightarrow(\forall X9.(m1\_subset\_1 X9 X2)\Rightarrow(\forall X10.(m1\_subset\_1 \\ & X10 X3)\Rightarrow(k3\_funct\_2 (k4\_zfmisc\_1 X0 X1 X2 X3) X4 X5 (k5\_domain\_1 \\ & X0 X1 X2 X3 X7 X8 X9 X10) = k3\_funct\_2 (k4\_zfmisc\_1 X0 X1 X2 X3) X4 X6 ( \\ & k5\_domain\_1 X0 X1 X2 X3 X7 X8 X9 X10))))))\Rightarrow(r2\_funct\_2 (k4\_zfmisc\_1 \\ & X0 X1 X2 X3) X4 X5 X6)))))) \end{aligned}$$