

# t62\_bvfunc14 (TMT- GRt7PhFAzHhUUoDVSXh4QhCatew8ceG5)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k7\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\
& \forall X6. \forall X7. ((v1\_relat\_1 X7) \wedge (v1\_funct\_1 X7)) \Rightarrow (\forall X8. \\
& \quad \forall X9. \forall X10. \forall X11. \forall X12. \forall X13. \forall X14. \\
& \quad (X7 = k1\_funct\_4 (k1\_funct\_4 (k1\_funct\_4 (k1\_funct\_4 (k1\_funct\_4 \\
& \quad (k1\_funct\_4 (k16\_funcop\_1 X1 X9) (k16\_funcop\_1 X2 X10)) (k16\_funcop\_1 \\
& \quad X3 X11)) (k16\_funcop\_1 X4 X12)) (k16\_funcop\_1 X5 X13)) (k16\_funcop\_1 \\
& \quad X6 X14)) (k16\_funcop\_1 X0 X8)) \Rightarrow ((X0 = X1) \vee ((X0 = X2) \vee ((X0 = X3) \vee ( \\
& \quad (X0 = X4) \vee ((X0 = X5) \vee ((X0 = X6) \vee ((X1 = X2) \vee ((X1 = X3) \vee ((X1 = X4) \vee ( \\
& \quad X1 = X5) \vee ((X1 = X6) \vee ((X2 = X3) \vee ((X2 = X4) \vee ((X2 = X5) \vee ((X2 = X6) \vee ((X3 = \\
& \quad X4) \vee ((X3 = X5) \vee ((X3 = X6) \vee ((X4 = X5) \vee ((X4 = X6) \vee ((X5 = X6) \vee ((k1\_funct\_1 \\
& \quad X7 X0 = X8) \wedge ((k1\_funct\_1 X7 X1 = X9) \wedge ((k1\_funct\_1 X7 X2 = X10) \wedge ((k1\_funct\_1 \\
& \quad X7 X3 = X11) \wedge ((k1\_funct\_1 X7 X4 = X12) \wedge ((k1\_funct\_1 X7 X5 = X13) \wedge ( \\
& \quad k1\_funct\_1 X7 X6 = X14))))))))))))))))))))))))))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (k9\_xtuple\_0 (k2\_funcop\_1 X0 X1) = X0) \wedge (r1\_tarski (k10\_xtuple\_0 (k2\_funcop\_1 X0 X1)) (k1\_tarski X1)) \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2. \\
& ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow ((\neg X0 \in k9\_xtuple\_0 X1) \Rightarrow (k1\_funct\_1 \\
& \quad (k1\_funct\_4 X2 X1) X0 = k1\_funct\_1 X2 X0)))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. k7\_funcop\_1 X0 X1 = k2\_funcop\_1 X0 X1 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1 (k16\_funcop\_1 X0 X1))\wedge(v1\_funct\_1 (k16\_funcop\_1 X0 X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\wedge((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1)))\Rightarrow((v1\_relat\_1 (k1\_funct\_4 X0 X1))\wedge(v1\_funct\_1 (k1\_funct\_4 X0 X1))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.k16\_funcop\_1 X0 X1 = k7\_funcop\_1 (k1\_tarski X0) X1 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_tarski X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow(X2 = X0)) \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & \forall X6.\forall X7.\forall X8.((v1\_relat\_1 X8)\wedge(v1\_funct\_1 X8))\Rightarrow(\forall X9.\forall X10.\forall X11.\forall X12.\forall X13. \\ & \forall X14.\forall X15.\forall X16.(X8 = k1\_funct\_4 (k1\_funct\_4 (k1\_funct\_4 (k1\_funct\_4 (k1\_funct\_4 \\ & (k16\_funcop\_1 X1 X10) (k16\_funcop\_1 X2 X11)) (k16\_funcop\_1 X3 X12)) \\ & (k16\_funcop\_1 X4 X13)) (k16\_funcop\_1 X5 X14)) (k16\_funcop\_1 X6 \\ & X15)) (k16\_funcop\_1 X7 X16)) (k16\_funcop\_1 X0 X9))\Rightarrow((X0 = X1)\vee( \\ & (X0 = X2)\vee((X0 = X3)\vee((X0 = X4)\vee((X0 = X5)\vee((X0 = X6)\vee((X1 = X2)\vee(( \\ & X1 = X3)\vee((X1 = X4)\vee((X1 = X5)\vee((X1 = X6)\vee((X1 = X7)\vee((X2 = X3)\vee((X2 = \\ & X4)\vee((X2 = X5)\vee((X2 = X6)\vee((X2 = X7)\vee((X3 = X4)\vee((X3 = X5)\vee((X3 = X6)\vee \\ & ((X3 = X7)\vee((X4 = X5)\vee((X4 = X6)\vee((X4 = X7)\vee((X5 = X6)\vee((X5 = X7)\vee( \\ & (X6 = X7)\vee((k1\_funct\_1 X8 X1 = X10)\wedge((k1\_funct\_1 X8 X2 = X11)\wedge((k1\_funct\_1 \\ & X8 X3 = X12)\wedge((k1\_funct\_1 X8 X4 = X13)\wedge((k1\_funct\_1 X8 X5 = X14)\wedge( \\ & k1\_funct\_1 X8 X6 = X15)))))))))))))))))))))))))))))))))))))) \end{aligned}$$