

t4\_geomtrap  
(TMTAocW4scSaQdncHYhv9FatfjFgjZsX7uK)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v5\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v6\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v7\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v8\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l1\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_analmetr : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_geomtrap : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k1\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $r1\_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 X0)))))))))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\
& (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4. (m1\_subset\_1 X4 (u1\_struct\_0 \\
& X0)) \Rightarrow (\forall X5. (m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow (\forall X6. \\
& (m1\_subset\_1 X6 (u1\_struct\_0 X0)) \Rightarrow (\forall X7. (m1\_subset\_1 X7 \\
& (u1\_struct\_0 (k2\_analmetr X0 X1 X2)) \Rightarrow (\forall X8. (m1\_subset\_1 \\
& X8 (u1\_struct\_0 (k2\_analmetr X0 X1 X2)) \Rightarrow (\forall X9. (m1\_subset\_1 \\
& X9 (u1\_struct\_0 (k2\_analmetr X0 X1 X2)) \Rightarrow (\forall X10. (m1\_subset\_1 \\
& X10 (u1\_struct\_0 (k2\_analmetr X0 X1 X2)) \Rightarrow (((X7 = X3) \wedge ((X8 = X4) \wedge \\
& ((X9 = X5) \wedge (X10 = X6)))))) \Rightarrow ((r2\_analoaf (k2\_analmetr X0 X1 X2) X7 X8 \\
& X9 X10) \Leftrightarrow (\exists X11. (m1\_subset\_1 X11 k1\_numbers) \wedge (\exists X12. \\
& (m1\_subset\_1 X12 k1\_numbers) \wedge ((k1\_rlvect\_1 X0 (k5\_algstr\_0 X0 \\
& X4 X3) X11 = k1\_rlvect\_1 X0 (k5\_algstr\_0 X0 X6 X5) X12) \wedge (\neg (X11 = k6\_numbers) \wedge \\
& (X12 = k6\_numbers))))))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\
& (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 \\
& X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 \\
& X0)) \Rightarrow ((\neg((r1\_analoaf X0 X1 X2 X3 X4) \vee (r1\_analoaf X0 X1 X2 X4 X3)) \wedge \\
& (\forall X5.(m1\_subset\_1 X5 k1\_numbers) \Rightarrow (\forall X6.(m1\_subset\_1 \\
& X6 k1\_numbers) \Rightarrow (\neg(k1\_rlvect\_1 X0 (k5\_algstr\_0 X0 X2 X1) X5 = k1\_rlvect\_1 \\
& X0 (k5\_algstr\_0 X0 X4 X3) X6) \wedge (\neg(X5 = k6\_numbers) \wedge (X6 = k6\_numbers)))))) \wedge \\
& (\neg(\exists X5.(m1\_subset\_1 X5 k1\_numbers) \wedge (\exists X6.(m1\_subset\_1 \\
& X6 k1\_numbers) \wedge ((k1\_rlvect\_1 X0 (k5\_algstr\_0 X0 X2 X1) X5 = k1\_rlvect\_1 \\
& X0 (k5\_algstr\_0 X0 X4 X3) X6) \wedge (\neg(X5 = k6\_numbers) \wedge (X6 = k6\_numbers)))))) \wedge \\
& ((\neg r1\_analoaf X0 X1 X2 X3 X4) \wedge (\neg r1\_analoaf X0 X1 X2 X4 X3))))))))) \\
& \tag{2}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\
& (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 \\
& X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 \\
& X0)) \Rightarrow ((r1\_geomtrap X0 X1 X2 X3 X4) \Leftrightarrow ((r1\_analoaf X0 X1 X2 X3 X4) \vee ( \\
& r1\_analoaf X0 X1 X2 X4 X3))))))))) \\
& \tag{3}
\end{aligned}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\
& (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 \\
& X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 \\
& X0)) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow (\forall X6. \\
& (m1\_subset\_1 X6 (u1\_struct\_0 X0)) \Rightarrow (\forall X7.(m1\_subset\_1 X7 \\
& (u1\_struct\_0 (k2\_analmetr X0 X1 X2)) \Rightarrow (\forall X8.(m1\_subset\_1 \\
& X8 (u1\_struct\_0 (k2\_analmetr X0 X1 X2)) \Rightarrow (\forall X9.(m1\_subset\_1 \\
& X9 (u1\_struct\_0 (k2\_analmetr X0 X1 X2)) \Rightarrow (\forall X10.(m1\_subset\_1 \\
& X10 (u1\_struct\_0 (k2\_analmetr X0 X1 X2)) \Rightarrow (((X7 = X3) \wedge ((X8 = X4) \wedge \\
& ((X9 = X5) \wedge (X10 = X6)))) \Rightarrow ((r2\_analoaf (k2\_analmetr X0 X1 X2) X7 X8 \\
& X9 X10) \Leftrightarrow (r1\_geomtrap X0 X3 X4 X5 X6))))))))))))) \\
& \tag{3}
\end{aligned}$$