

# t5\_mod\_2 (TMYCvYbDwNt- tJxuR6YzfDuDaHKFCbMFD9ZT)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $v4\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v5\_vectsp\_1 : \iota \Rightarrow o$  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  $l6\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v8\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v9\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v10\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v11\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_mod\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_mod\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_mod\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v13\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_mod\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_mod\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_mod\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_mod\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v3\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow \\
& (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v8\_vectsp\_1 X1 X0) \wedge ((v9\_vectsp\_1 X1 X0) \wedge ((v10\_vectsp\_1 X1 X0) \wedge ((v11\_vectsp\_1 X1 X0) \wedge ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge (l1\_vectsp\_1 X1 X0)))))))))) \Rightarrow (\forall X2.((\neg v2\_struct\_0 X2) \wedge ((v13\_algstr\_0 X2) \wedge ((v8\_vectsp\_1 X2 X0) \wedge ((v9\_vectsp\_1 X2 X0) \wedge ((v10\_vectsp\_1 X2 X0) \wedge ((v11\_vectsp\_1 X2 X0) \wedge ((v2\_rlvect\_1 X2) \wedge ((v3\_rlvect\_1 X2) \wedge ((v4\_rlvect\_1 X2) \wedge (l1\_vectsp\_1 X2 X0)))))))))) \Rightarrow (\forall X3.((v3\_mod\_2 X3 X0) \wedge (l1\_mod\_2 X3 X0)) \Rightarrow ((m1\_mod\_2 X3 X0 X1 X2) \Leftrightarrow ((k2\_mod\_2 X0 X3 = X1) \wedge (k3\_mod\_2 X0 X3 = X2))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v3\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow \\
& (\forall X1.(l1\_mod\_2 X1 X0) \Rightarrow ((v3\_mod\_2 X1 X0) \Leftrightarrow ((v13\_vectsp\_1 (k4\_mod\_2 X0 X1) (k2\_mod\_2 X0 X1) (k3\_mod\_2 X0 X1)) \wedge (v1\_mod\_2 (k4\_mod\_2 X0 X1) X0 (k2\_mod\_2 X0 X1) (k3\_mod\_2 X0 X1))))))
\end{aligned} \tag{2}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v3\_group\_1 \\
& X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge ((v2\_rlvect\_1 X0) \wedge \\
& ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow \\
& (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v8\_vectsp\_1 \\
& X1 X0) \wedge ((v9\_vectsp\_1 X1 X0) \wedge ((v10\_vectsp\_1 X1 X0) \wedge ((v11\_vectsp\_1 \\
& X1 X0) \wedge ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge \\
& (l1\_vectsp\_1 X1 X0)))))))))) \Rightarrow (\forall X2.((\neg v2\_struct\_0 X2) \wedge \\
& ((v13\_algstr\_0 X2) \wedge ((v8\_vectsp\_1 X2 X0) \wedge ((v9\_vectsp\_1 X2 X0) \wedge \\
& ((v10\_vectsp\_1 X2 X0) \wedge ((v11\_vectsp\_1 X2 X0) \wedge ((v2\_rlvect\_1 X2) \wedge \\
& ((v3\_rlvect\_1 X2) \wedge ((v4\_rlvect\_1 X2) \wedge (l1\_vectsp\_1 X2 X0)))))))))) \Rightarrow \\
& (\forall X3.(l1\_mod\_2 X3 X0) \Rightarrow (((k2\_mod\_2 X0 X3 = X1) \wedge ((k3\_mod\_2 \\
& X0 X3 = X2) \wedge ((v13\_vectsp\_1 (k4\_mod\_2 X0 X3) (k2\_mod\_2 X0 X3) (k3\_mod\_2 \\
& X0 X3)) \wedge (v1\_mod\_2 (k4\_mod\_2 X0 X3) X0 (k2\_mod\_2 X0 X3) (k3\_mod\_2 \\
& X0 X3)))))) \Rightarrow (m1\_mod\_2 X3 X0 X1 X2))))))
\end{aligned}$$