

# t10\_grcat\_1 (TMbE- NaRNpMQTW6e73YR6Sz5UraLp4LT5Dx8)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v1\_grcat\_1 : \iota \Rightarrow o$  be given. Let  $l1\_grcat\_1 : \iota \Rightarrow o$  be given. Let  $k7\_grcat\_1 : \iota \Rightarrow \iota$  be given. Let  $k8\_grcat\_1 : \iota \Rightarrow \iota$  be given. Let  $v13\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_grcat\_1 : \iota \Rightarrow \iota$  be given. Let  $m1\_grcat\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_grcat\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v3\_rlvect\_1 \\ &X0) \wedge ((v4\_rlvect\_1 X0) \wedge (l2\_algstr\_0 X0)))))) \Rightarrow (\forall X1. ((\neg \\ &v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 \\ &X1) \wedge (l2\_algstr\_0 X1)))))) \Rightarrow (\forall X2. ((v2\_grcat\_1 X2) \wedge (l1\_grcat\_1 \\ &X2)) \Rightarrow ((m1\_grcat\_1 X2 X0 X1) \Leftrightarrow ((k7\_grcat\_1 X2 = X0) \wedge (k8\_grcat\_1 \\ &X2 = X1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. (l1\_grcat\_1 X0) \Rightarrow ((v2\_grcat\_1 X0) \Leftrightarrow (v13\_vectsp\_1 (k9\_grcat\_1 X0) (k7\_grcat\_1 X0) (k8\_grcat\_1 X0))) \tag{2}$$

## Theorem 1

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v3\_rlvect\_1 \\ &X0) \wedge ((v4\_rlvect\_1 X0) \wedge (l2\_algstr\_0 X0)))))) \Rightarrow (\forall X1. ((\neg \\ &v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 \\ &X1) \wedge (l2\_algstr\_0 X1)))))) \Rightarrow (\forall X2. ((v1\_grcat\_1 X2) \wedge (l1\_grcat\_1 \\ &X2)) \Rightarrow (((k7\_grcat\_1 X2 = X0) \wedge ((k8\_grcat\_1 X2 = X1) \wedge (v13\_vectsp\_1 \\ &(k9\_grcat\_1 X2) (k7\_grcat\_1 X2) (k8\_grcat\_1 X2)))) \Rightarrow ((v1\_grcat\_1 \\ &X2) \wedge (m1\_grcat\_1 X2 X0 X1)))))) \end{aligned}$$