t8_rmod_2 (TMW5YBaD2fvk5WYQKkt9bdeXzPCFjckyAYD)

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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 $v4\_vectsp\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1\_vectsp\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_rmod\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_struct\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l5\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_algstr\_0 : \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $u1\_algstr\_0 : \iota \Rightarrow \iota$ be given. Let $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_vectsp\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v3\_group\_1\ X0) \wedge ((v4\_vectsp\_1\ X0) \wedge ((v5\_vectsp\_1\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge (l6\_algstr\_0\ X0))))))))) \wedge ((\neg v2\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge ((v2\_rlvect\_1\ X1) \wedge ((v3\_rlvect\_1\ X1) \wedge ((v4\_rlvect\_1\ X1) \wedge ((v4\_vectsp\_2\ X1\ X0) \wedge (l1\_vectsp\_2\ X1\ X0))))))))) \Rightarrow (\forall X2.(m1\_rmod\_2\ X2\ X0\ X1) \Rightarrow ((\neg v2\_struct\_0\ X2) \wedge ((v13\_algstr\_0\ X2) \wedge ((v2\_rlvect\_1\ X2) \wedge ((v3\_rlvect\_1\ X2) \wedge ((v4\_rlvect\_1\ X2) \wedge ((v4\_vectsp\_2\ X2\ X0) \wedge (l1\_vectsp\_2\ X2\ X0))))))))) \tag{1}$$

Assume the following.

$$\forall X0.(l6\_algstr\_0\ X0) \Rightarrow ((l2\_algstr\_0\ X0) \wedge (l5\_algstr\_0\ X0)) \tag{2}$$

Assume the following.

$$\forall X0.(l2\_struct\_0\ X0) \Rightarrow (l1\_struct\_0\ X0) \tag{3}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0) \Rightarrow ((l2\_struct\_0\ X0) \wedge (l1\_algstr\_0\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0) \Rightarrow (\forall X1.(l1\_vectsp\_2\ X1\ X0) \Rightarrow (l2\_algstr\_0\ X1)) \tag{5}$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0)\Rightarrow(\forall X1.(r1\_struct\_0\ X0\ X1)\Leftrightarrow (X1 \in u1\_struct\_0\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow (X2 \in X1)) \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v3\_group\_1\ X0)\wedge((v4\_vectsp\_1\ X0)\wedge((v5\_vectsp\_1\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge(l6\_algstr\_0\ X0))))))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v4\_vectsp\_2\ X1\ X0)\wedge(l1\_vectsp\_2\ X1\ X0)))))))\Rightarrow(\forall X2.((\neg v2\_struct\_0\ X2)\wedge((v13\_algstr\_0\ X2)\wedge((v2\_rlvect\_1\ X2)\wedge((v3\_rlvect\_1\ X2)\wedge((v4\_rlvect\_1\ X2)\wedge((v4\_vectsp\_2\ X2\ X0)\wedge(l1\_vectsp\_2\ X2\ X0)))))))\Rightarrow((m1\_rmod\_2\ X2\ X0\ X1)\Leftrightarrow((r1\_tarski\ (u1\_struct\_0\ X2)\ (u1\_struct\_0\ X1))\wedge((k4\_struct\_0\ X2 = k4\_struct\_0\ X1)\wedge((u1\_algstr\_0\ X2 = k5\_relat\_1\ (u1\_algstr\_0\ X1)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X2)\ (u1\_struct\_0\ X2)))\wedge(u1\_vectsp\_2\ X0\ X2 = k5\_relat\_1\ (u1\_vectsp\_2\ X0\ X1)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X2)\ (u1\_struct\_0\ X0)))))))) \tag{8}$$

Theorem 1

$$\forall X0.\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v3\_group\_1\ X1)\wedge((v4\_vectsp\_1\ X1)\wedge((v5\_vectsp\_1\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge(l6\_algstr\_0\ X1)))))))))\Rightarrow(\forall X2.((\neg v2\_struct\_0\ X2)\wedge((v13\_algstr\_0\ X2)\wedge((v2\_rlvect\_1\ X2)\wedge((v3\_rlvect\_1\ X2)\wedge((v4\_rlvect\_1\ X2)\wedge((v4\_vectsp\_2\ X2\ X1)\wedge(l1\_vectsp\_2\ X2\ X1)))))))\Rightarrow(\forall X3.(m1\_rmod\_2\ X3\ X1\ X2)\Rightarrow(\forall X4.(m1\_rmod\_2\ X4\ X1\ X2)\Rightarrow(((r1\_struct\_0\ X3\ X0)\wedge(m1\_rmod\_2\ X3\ X1\ X4))\Rightarrow(r1\_struct\_0\ X4\ X0)))))$$