t46_rmod_3 (TMZr-GuU7f7HoCYC6KWR4zPZBx8bv6LvF23P)

October 27, 2020

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 $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $r1\_rmod\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_rmod\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v3\_group\_1\ X0) \wedge ((v4\_vectsp\_1\ X0) \wedge ((v5\_vectsp\_1\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge (l6\_algstr\_0\ X0))))))))) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge ((v2\_rlvect\_1\ X1) \wedge ((v3\_rlvect\_1\ X1) \wedge ((v4\_rlvect\_1\ X1) \wedge ((v4\_vectsp\_2\ X1\ X0) \wedge (l1\_vectsp\_2\ X1\ X0))))))) \Rightarrow (\forall X2.(m1\_rmod\_2\ X2\ X0\ X1) \Rightarrow (\forall X3.(m1\_rmod\_2\ X3\ X0\ X1) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X1)) \Rightarrow ((r1\_rmod\_3\ X0\ X1\ X2\ X3) \Rightarrow (k2\_domain\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1)\ (k4\_rmod\_3\ X0\ X1\ X4\ X2\ X3) = k3\_domain\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1)\ (k4\_rmod\_3\ X0\ X1\ X4\ X3\ X2))))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v3\_group\_1\ X0) \wedge ((v4\_vectsp\_1\ X0) \wedge ((v5\_vectsp\_1\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge (l6\_algstr\_0\ X0))))))))) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v13\_algstr\_0\ X1) \wedge ((v2\_rlvect\_1\ X1) \wedge ((v3\_rlvect\_1\ X1) \wedge ((v4\_rlvect\_1\ X1) \wedge ((v4\_vectsp\_2\ X1\ X0) \wedge (l1\_vectsp\_2\ X1\ X0))))))) \Rightarrow (\forall X2.(m1\_rmod\_2\ X2\ X0\ X1) \Rightarrow (\forall X3.(m1\_rmod\_2\ X3\ X0\ X1) \Rightarrow ((r1\_rmod\_3\ X0\ X1\ X2\ X3) \Rightarrow (r1\_rmod\_3\ X0\ X1\ X3\ X2))))) \tag{2}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v3\_group\_1\ X0)\wedge((v4\_vectsp\_1\ X0)\wedge((v5\_vectsp\_1\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge(l6\_algstr\_0\ X0)))))))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v4\_vectsp\_2\ X1\ X0)\wedge(l1\_vectsp\_2\ X1\ X0)))))))\Rightarrow(\forall X2.(m1\_rmod\_2\ X2\ X0\ X1)\Rightarrow(\forall X3.(m1\_rmod\_2\ X3\ X0\ X1)\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X1))\Rightarrow((r1\_rmod\_3\ X0\ X1\ X2\ X3)\Rightarrow(k3\_domain\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1)\ (k4\_rmod\_3\ X0\ X1\ X4\ X2\ X3) = k2\_domain\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X1)\ (k4\_rmod\_3\ X0\ X1\ X4\ X3\ X2)))))))$$