t21_quofield (TMTRDD45aVuQXgEgnvsyg4zth9N7CiYuAHy)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v6\_struct\_0 : \iota \Rightarrow o$ 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 $v3\_group\_1 : \iota \Rightarrow o$ be given. Let $v5\_group\_1 : \iota \Rightarrow o$ be given. Let $v4\_vectsp\_1 : \iota \Rightarrow o$ be given. Let $v5\_vectsp\_1 : \iota \Rightarrow o$ be given. Let $v1\_vectsp\_2 : \iota \Rightarrow o$ be given. Let $l6\_algstr\_0 : \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_quofield : \iota \Rightarrow \iota$ be given. Let $k7\_quofield : \iota \Rightarrow \iota$ be given. Let $k5\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15\_quofield : \iota \Rightarrow \iota$ be given. Let $k8\_quofield : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((\neg v6\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v3\_group\_1\ X0) \wedge ((v5\_group\_1\ X0) \wedge ((v4\_vectsp\_1\ X0) \wedge ((v5\_vectsp\_1\ X0) \wedge ((v1\_vectsp\_2\ X0) \wedge (l6\_algstr\_0\ X0))))))))))) \Rightarrow (\forall X1.(m2\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_quofield\ X0))\ (k7\_quofield\ X0)) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k1\_quofield\ X0))\ (k7\_quofield\ X0)) \Rightarrow (\forall X3.(m2\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k1\_quofield\ X0))\ (k7\_quofield\ X0)) \Rightarrow ((k8\_quofield\ X0\ X1\ (k8\_quofield\ X0\ X2\ X3) = k8\_quofield\ X0\ (k8\_quofield\ X0\ X1\ X2)\ X3) \wedge (k8\_quofield\ X0\ X1\ X2 = k8\_quofield\ X0\ X2\ X1))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((\neg v6\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v2\_rlvect\_1\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge ((v3\_group\_1\ X0) \wedge ((v5\_group\_1\ X0) \wedge ((v4\_vectsp\_1\ X0) \wedge ((v5\_vectsp\_1\ X0) \wedge ((v1\_vectsp\_2\ X0) \wedge (l6\_algstr\_0\ X0))))))))))) \Rightarrow ((v1\_funct\_1\ (k15\_quofield\ X0)) \wedge ((v1\_funct\_2\ (k15\_quofield\ X0)\ (k2\_zfmisc\_1\ (k7\_quofield\ X0)\ (k7\_quofield\ X0))\ (k7\_quofield\ X0)) \wedge (m1\_subset\_1\ (k15\_quofield\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (k7\_quofield\ X0)\ (k7\_quofield\ X0))\ (k7\_quofield\ X0)))))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v6\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge((v5\_group\_1\ X0)\wedge((v4\_vectsp\_1\ X0)\wedge((v5\_vectsp\_1\ X0)\wedge((v1\_vectsp\_2\ X0)\wedge(l6\_algstr\_0\ X0))))))))))\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ (k7\_quofield\ X0)\ (k7\_quofield\ X0))\ (k7\_quofield\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (k7\_quofield\ X0)\ (k7\_quofield\ X0))\ (k7\_quofield\ X0))))))\Rightarrow((X1 = k15\_quofield\ X0)\Leftrightarrow(\forall X2.(m2\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k1\_quofield\ X0))\ (k7\_quofield\ X0))\Rightarrow(\forall X3.(m2\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k1\_quofield\ X0))\ (k7\_quofield\ X0))\Rightarrow(k5\_binop\_1\ (k7\_quofield\ X0)\ X1\ X2\ X3 = k8\_quofield\ X0\ X2\ X3)))))) \tag{3}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v6\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v3\_group\_1\ X0)\wedge((v5\_group\_1\ X0)\wedge((v4\_vectsp\_1\ X0)\wedge((v5\_vectsp\_1\ X0)\wedge((v1\_vectsp\_2\ X0)\wedge(l6\_algstr\_0\ X0))))))))))\Rightarrow(\forall X1.(m2\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_quofield\ X0))\ (k7\_quofield\ X0))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k1\_quofield\ X0))\ (k7\_quofield\ X0))\Rightarrow(k5\_binop\_1\ (k7\_quofield\ X0)\ (k15\_quofield\ X0)\ X1\ X2 = k5\_binop\_1\ (k7\_quofield\ X0)\ (k15\_quofield\ X0)\ X2\ X1)))$$