

# t39\_quofield (TMdWpNWcGByeSCmp- nDNbzsEta9iHnUD7p7h)

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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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k19\_quofield : \iota \Rightarrow \iota$  be given. Let  $k1\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v36\_algstr\_0 : \iota \Rightarrow o$  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  $l1\_algstr\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ &X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge \\ &((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 \\ &X0) \wedge ((v1\_vectsp\_2 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow ((v13\_algstr\_0 \\ &(k19\_quofield X0)) \wedge ((v36\_algstr\_0 (k19\_quofield X0)) \wedge ((v3\_rlvect\_1 \\ &(k19\_quofield X0)) \wedge (v4\_rlvect\_1 (k19\_quofield X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (l6\_algstr\_0 X0) \Rightarrow ((l2\_algstr\_0 X0) \wedge (l5\_algstr\_0 X0)) \quad (2)$$

Assume the following.

$$\forall X0. (l2\_algstr\_0 X0) \Rightarrow ((l2\_struct\_0 X0) \wedge (l1\_algstr\_0 X0)) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ &X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge \\ &((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 \\ &X0) \wedge ((v1\_vectsp\_2 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow ((v36\_algstr\_0 \\ &(k19\_quofield X0)) \wedge (l6\_algstr\_0 (k19\_quofield X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1\_algstr\_0 X0) \Rightarrow ((v3\_rlvect\_1 X0) \Leftrightarrow (\forall X1.( \\
& \quad m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 \\
& \quad (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow \\
& \quad (k1\_algstr\_0 X0 (k1\_algstr\_0 X0 X1 X2) X3 = k1\_algstr\_0 X0 X1 (k1\_algstr\_0 \\
& \quad \quad X0 X2 X3)))))) \\
& \hspace{20em} (5)
\end{aligned}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\
& \quad X0) \wedge (v2\_rlvect\_1 X0) \wedge (v3\_rlvect\_1 X0) \wedge (v4\_rlvect\_1 X0) \wedge \\
& \quad ((v3\_group\_1 X0) \wedge (v5\_group\_1 X0) \wedge (v4\_vectsp\_1 X0) \wedge (v5\_vectsp\_1 \\
& \quad \quad X0) \wedge (v1\_vectsp\_2 X0) \wedge (l6\_algstr\_0 X0)))))) \Rightarrow (\forall X1. \\
& \quad (m1\_subset\_1 X1 (u1\_struct\_0 (k19\_quofield X0))) \Rightarrow (\forall X2. \\
& \quad \quad (m1\_subset\_1 X2 (u1\_struct\_0 (k19\_quofield X0))) \Rightarrow (\forall X3. \\
& \quad \quad \quad (m1\_subset\_1 X3 (u1\_struct\_0 (k19\_quofield X0))) \Rightarrow (k1\_algstr\_0 \\
& \quad (k19\_quofield X0) (k1\_algstr\_0 (k19\_quofield X0) X1 X2) X3 = k1\_algstr\_0 \\
& \quad \quad (k19\_quofield X0) X1 (k1\_algstr\_0 (k19\_quofield X0) X2 X3))))))
\end{aligned}$$