

## t28\_quofield

(TMN8KGQWsqLhwxmEypDA7R8UxMT7RR8Yae)

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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  $k5\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k15\_quofield : \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k17\_quofield : \iota \Rightarrow \iota$  be given. Let  $k11\_quofield : \iota \Rightarrow \iota$  be given. Let  $k8\_quofield : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k13\_quofield : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l5\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  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. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\
& X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge \\
& ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 \\
& X0) \wedge ((v1\_vectsp\_2 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (m2\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_quofield X0)) (k7\_quofield X0)) \Rightarrow \\
& ((k8\_quofield X0 X1 (k13\_quofield X0 X1) = k11\_quofield X0) \wedge (k8\_quofield \\
& X0 (k13\_quofield X0 X1) X1 = k11\_quofield X0)))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\
& (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\
& X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge (l5\_algstr\_0 \\
& X0))) \Rightarrow (\neg v1\_xboole\_0 (k7\_quofield X0))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(l6\_algstr\_0 X0)\Rightarrow((l2\_algstr\_0 X0)\wedge(l5\_algstr\_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((\neg v6\_struct\_0 X0)\wedge(l5\_algstr\_0 X0)))\Rightarrow(m1\_subset\_1 (k7\_quofield X0) (k1\_zfmisc\_1 (k1\_zfmisc\_1 (k1\_quofield X0)))) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0)\wedge((\neg v6\_struct\_0 X0)\wedge((v13\_algstr\_0 X0)\wedge((v2\_rlvect\_1 X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge \\ ((v3\_group\_1 X0)\wedge((v5\_group\_1 X0)\wedge((v4\_vectsp\_1 X0)\wedge((v5\_vectsp\_1 X0)\wedge((v1\_vectsp\_2 X0)\wedge(l6\_algstr\_0 X0))))))))))\Rightarrow((v1\_funct\_1 \\ (k17\_quofield X0)\wedge((v1\_funct\_2 (k17\_quofield X0) (k7\_quofield X0) (k7\_quofield X0))\wedge(m1\_subset\_1 (k17\_quofield X0) (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1 (k7\_quofield X0) (k7\_quofield X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0)\wedge((\neg v6\_struct\_0 X0)\wedge((v13\_algstr\_0 X0)\wedge((v2\_rlvect\_1 X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge \\ ((v3\_group\_1 X0)\wedge((v5\_group\_1 X0)\wedge((v4\_vectsp\_1 X0)\wedge((v5\_vectsp\_1 X0)\wedge((v1\_vectsp\_2 X0)\wedge(l6\_algstr\_0 X0))))))))))\Rightarrow((v1\_funct\_1 \\ (k15\_quofield X0)\wedge((v1\_funct\_2 (k15\_quofield X0) (k2\_zfmisc\_1 (k7\_quofield X0) (k7\_quofield X0)) (k7\_quofield X0))\wedge(m1\_subset\_1 \\ (k15\_quofield X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 (k7\_quofield X0) (k7\_quofield X0)) (k7\_quofield X0)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge((\neg v6\_struct\_0 X0)\wedge \\ ((v13\_algstr\_0 X0)\wedge((v2\_rlvect\_1 X0)\wedge((v3\_rlvect\_1 X0)\wedge((v4\_rlvect\_1 X0)\wedge((v3\_group\_1 X0)\wedge((v5\_group\_1 X0)\wedge((v4\_vectsp\_1 X0)\wedge(( \\ v5\_vectsp\_1 X0)\wedge((v1\_vectsp\_2 X0)\wedge(l6\_algstr\_0 X0))))))))))\wedge \\ (m1\_subset\_1 X1 (k7\_quofield X0)))\Rightarrow(m2\_subset\_1 (k13\_quofield X0 X1) (k1\_zfmisc\_1 (k1\_quofield X0) (k7\_quofield X0)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\
& X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge \\
& ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 \\
& X0) \wedge ((v1\_vectsp\_2 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (k7\_quofield X0) (k7\_quofield \\
& X0)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k7\_quofield \\
& X0) (k7\_quofield X0)))))) \Rightarrow ((X1 = k17\_quofield X0) \Leftrightarrow (\forall X2. \\
& (m2\_subset\_1 X2 (k1\_zfmisc\_1 (k1\_quofield X0) (k7\_quofield X0)) \Rightarrow \\
& (k3\_funct\_2 (k7\_quofield X0) (k7\_quofield X0) X1 X2 = k13\_quofield \\
& X0 X2))))))
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\
& X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge \\
& ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 \\
& X0) \wedge ((v1\_vectsp\_2 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (k2\_zfmisc\_1 (k7\_quofield X0) \\
& (k7\_quofield X0) (k7\_quofield X0)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 (k2\_zfmisc\_1 (k7\_quofield X0) (k7\_quofield X0)) \\
& (k7\_quofield X0)))))) \Rightarrow ((X1 = k15\_quofield X0) \Leftrightarrow (\forall X2. (m2\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (k1\_quofield X0) (k7\_quofield X0)) \Rightarrow (\forall X3. \\
& (m2\_subset\_1 X3 (k1\_zfmisc\_1 (k1\_quofield X0) (k7\_quofield X0)) \Rightarrow \\
& (k5\_binop\_1 (k7\_quofield X0) X1 X2 X3 = k8\_quofield X0 X2 X3))))))
\end{aligned} \tag{10}$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0) \Rightarrow (v1\_xboole\_0 X1)) \tag{11}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\
& X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge \\
& ((v3\_group\_1 X0) \wedge ((v5\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 \\
& X0) \wedge ((v1\_vectsp\_2 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (m2\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_quofield X0) (k7\_quofield X0)) \Rightarrow \\
& ((k5\_binop\_1 (k7\_quofield X0) (k15\_quofield X0) X1 (k3\_funct\_2 \\
& (k7\_quofield X0) (k7\_quofield X0) (k17\_quofield X0) X1) = k11\_quofield \\
& X0) \wedge (k5\_binop\_1 (k7\_quofield X0) (k15\_quofield X0) (k3\_funct\_2 \\
& (k7\_quofield X0) (k7\_quofield X0) (k17\_quofield X0) X1) X1 = k11\_quofield \\
& X0)))
\end{aligned}$$