

# t6\_ring\_1

(TMWSpA8anttPx2iEJvQb52igWUdPhgUafol)

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  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_ideal\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_ideal\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_ideal\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k6\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_ring\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_relat\_2 : \iota \Rightarrow o$  be given. Let  $v8\_relat\_2 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v3\_group\_1 \\
& X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge ((v2\_rlvect\_1 X0) \wedge \\
& ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge (l6\_algstr\_0 X0)))))))) \Rightarrow \\
& (\forall X1. ((\neg v1\_xboole\_0 X1) \wedge ((v1\_ideal\_1 X1 X0) \wedge ((v2\_ideal\_1 \\
& X1 X0) \wedge ((v3\_ideal\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& X0))))))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\
& (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow ((X2 \in k6\_eqrel\_1 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X0) (k1\_ring\_1 X0 X1) X3) \Leftrightarrow (k5\_algstr\_0 X0 X2 X3 \in \\
& X1))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((v3\_relat\_2 X2) \wedge ((v8\_relat\_2 \\
& X2) \wedge ((v1\_partfun1 X2 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& X0 X0)))))) \Rightarrow (\forall X3. (X3 \in X0) \Rightarrow ((X1 \in k6\_eqrel\_1 X0 X0 X2 X3) \Leftrightarrow \\
& (k6\_eqrel\_1 X0 X0 X2 X3 = k6\_eqrel\_1 X0 X0 X2 X1)))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge \\
& ((v3\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \wedge \\
& ((\neg v1\_xboole\_0 X1) \wedge ((v1\_ideal\_1 X1 X0) \wedge ((v2\_ideal\_1 X1 X0) \wedge ( \\
& (v3\_ideal\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& X0))))))) \Rightarrow ((\neg v1\_xboole\_0 (k1\_ring\_1 X0 X1)) \wedge ((v1\_partfun1 \\
& (k1\_ring\_1 X0 X1) (u1\_struct\_0 X0)) \wedge ((v3\_relat\_2 (k1\_ring\_1 X0 \\
& X1)) \wedge (v8\_relat\_2 (k1\_ring\_1 X0 X1))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge \\
& ((v3\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \wedge \\
& ((\neg v1\_xboole\_0 X1) \wedge ((v1\_ideal\_1 X1 X0) \wedge ((v2\_ideal\_1 X1 X0) \wedge ( \\
& (v3\_ideal\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& X0))))))) \Rightarrow (m1\_subset\_1 (k1\_ring\_1 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 X0) (u1\_struct\_0 X0))))
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (v1\_xboole\_0 X1)) \tag{6}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v3\_group\_1 \\
& X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge ((v2\_rlvect\_1 X0) \wedge \\
& ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow \\
& (\forall X1. ((\neg v1\_xboole\_0 X1) \wedge ((v1\_ideal\_1 X1 X0) \wedge ((v2\_ideal\_1 \\
& X1 X0) \wedge ((v3\_ideal\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& X0)))))))))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\
& (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow ((k6\_eqrel\_1 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X0) (k1\_ring\_1 X0 X1) X2 = k6\_eqrel\_1 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X0) (k1\_ring\_1 X0 X1) X3) \Leftrightarrow (k5\_algstr\_0 X0 X2 X3 \in \\
& X1))))))
\end{aligned}$$