

# t18\_fsm\_3 (TM- FJkK5Mbrm47hKyC5MPHG3nu2AZTAhw6fz)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_afinsq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l2\_fsm\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_fsm\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u1\_fsm\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u2\_fsm\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r4\_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
 & \quad (k8\_afinsq\_1 X0))) \Rightarrow (\forall X2. ((\neg v2\_struct\_0 X2) \wedge (l2\_fsm\_3 \\
 & \quad X2 X0 X1)) \Rightarrow (k6\_fsm\_3 X0 X1 X2 = ReplSep (toset (\lambda X3 : \iota. m1\_subset\_1 \\
 & \quad X3 (k8\_afinsq\_1 X0))) (\lambda X3 : \iota. \exists X4. (m1\_subset\_1 X4 \\
 & \quad (u1\_struct\_0 X2)) \wedge (\exists X5. (m1\_subset\_1 X5 (u1\_struct\_0 X2)) \wedge \\
 & \quad ((X4 \in u1\_fsm\_3 X0 X1 X2) \wedge ((X5 \in u2\_fsm\_3 X0 X1 X2) \wedge (r4\_rewrite3 X0 \\
 & \quad X1 X2 X4 X3 X5)))))) (\lambda X3 : \iota. X3))))))
 \end{aligned} \tag{1}$$

## Theorem 1

$$\begin{aligned}
 & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k8\_afinsq\_1 \\
 & \quad X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k8\_afinsq\_1 X0))) \Rightarrow \\
 & \quad (\forall X3. ((\neg v2\_struct\_0 X3) \wedge (l2\_fsm\_3 X3 X0 X2)) \Rightarrow ((X1 \in k6\_fsm\_3 \\
 & \quad X0 X2 X3) \Leftrightarrow (\exists X4. (m1\_subset\_1 X4 (u1\_struct\_0 X3)) \wedge (\exists X5. \\
 & \quad (m1\_subset\_1 X5 (u1\_struct\_0 X3)) \wedge ((X4 \in u1\_fsm\_3 X0 X2 X3) \wedge ((X5 \in \\
 & \quad u2\_fsm\_3 X0 X2 X3) \wedge (r4\_rewrite3 X0 X2 X3 X4 X1 X5))))))))))
 \end{aligned}$$