

# t38\_armstrng (TM- MJZwF3bTrfBYNogRDkQnU2bKQWp9qeWbx)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_setfam\_1 : \iota \Rightarrow \iota$  be given. Let  $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k12\_armstrng : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_armstrng : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_armstrng : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v6\_armstrng : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0) \wedge (v1\_finset\_1 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k9\_setfam\_1 X0) (k9\_setfam\_1 \\ & X0)))) \Rightarrow ((r1\_relset\_1 (k9\_setfam\_1 X0) (k9\_setfam\_1 X0) X1 (k10\_armstrng \\ & X0 (k11\_armstrng X0 X1))) \wedge (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (k9\_setfam\_1 X0) (k9\_setfam\_1 X0)))) \Rightarrow (((r1\_relset\_1 \\ & (k9\_setfam\_1 X0) (k9\_setfam\_1 X0) X1 X2) \wedge (v6\_armstrng X2 X0)) \Rightarrow \\ & (r1\_relset\_1 (k9\_setfam\_1 X0) (k9\_setfam\_1 X0) (k10\_armstrng \\ & X0 (k11\_armstrng X0 X1)) X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 \\ & X0))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (k9\_setfam\_1 X0) (k9\_setfam\_1 X0)))) \Rightarrow (v6\_armstrng (k10\_armstrng \\ & X0 X1) X0)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((m1\_subset\_1 X2 \\ & (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (r2\_relset\_1 X0 X1 X2 X2) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (k9\_setfam\_1 X0) (k9\_setfam\_1 X0)))) \Rightarrow (m1\_subset\_1 (k11\_armstrng \\ & X0 X1) (k1\_zfmisc\_1 (k1\_zfmisc\_1 X0))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.m1\_subset\_1 (k10\_armstrng X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k9\_setfam\_1 X0) (k9\_setfam\_1 X0))) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0)\wedge(v1\_finset\_1 X0))\Rightarrow(\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k9\_setfam\_1 X0) (k9\_setfam\_1 \\ & X0))))\Rightarrow(\forall X2.((v6\_armstrng X2 X0)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (k9\_setfam\_1 X0) (k9\_setfam\_1 X0))))\Rightarrow((X2 = k12\_armstrng \\ & X0 X1)\Leftrightarrow((r1\_relset\_1 (k9\_setfam\_1 X0) (k9\_setfam\_1 X0) X1 X2)\wedge \\ & (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k9\_setfam\_1 \\ & X0) (k9\_setfam\_1 X0))))\Rightarrow(((r1\_relset\_1 (k9\_setfam\_1 X0) (k9\_setfam\_1 \\ & X0) X1 X3)\wedge(v6\_armstrng X3 X0))\Rightarrow(r1\_relset\_1 (k9\_setfam\_1 X0) \\ & (k9\_setfam\_1 X0) X2 X3)))))) \quad (6) \end{aligned}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0)\wedge(v1\_finset\_1 X0))\Rightarrow(\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k9\_setfam\_1 X0) (k9\_setfam\_1 \\ & X0))))\Rightarrow(r2\_relset\_1 (k9\_setfam\_1 X0) (k9\_setfam\_1 X0) (k12\_armstrng \\ & X0 X1) (k10\_armstrng X0 (k11\_armstrng X0 X1))) \end{aligned}$$