

# l133\_modelc\_1 (TMXbQWiAWZbSP- WWrua5XrHBKp5csnJU6ahX)

October 27, 2020

Let  $v1\_xboole\_0 : \iota \Rightarrow o$  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  $k6\_margrel1 : \iota$  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  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_margrel1 : \iota$  be given. Let  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_bvfunc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_xboolean : \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ( \\ & (v1\_funct\_2 X1 X0 k6\_margrel1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 ( \\ & k2\_zfmisc\_1 X0 k6\_margrel1)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge \\ & ((v1\_funct\_2 X2 X0 k6\_margrel1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 k6\_margrel1)))))) \Rightarrow (\forall X3.((v1\_funct\_1 X3) \wedge \\ & ((v1\_funct\_2 X3 X0 k6\_margrel1) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 k6\_margrel1)))))) \Rightarrow (((r1\_bvfunc\_1 X0 X1 X2) \wedge ( \\ & r1\_bvfunc\_1 X0 X2 X1)) \Rightarrow (r2\_funct\_2 X0 k6\_margrel1 X1 X2)) \wedge (((r1\_bvfunc\_1 \\ & X0 X1 X2) \wedge (r1\_bvfunc\_1 X0 X2 X3)) \Rightarrow (r1\_bvfunc\_1 X0 X1 X3)))))) \\ & \tag{1} \end{aligned}$$

Assume the following.

$$k8\_margrel1 = k2\_xboolean \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ( \\ & (v1\_funct\_2 X1 X0 k6\_margrel1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 ( \\ & k2\_zfmisc\_1 X0 k6\_margrel1)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge \\ & ((v1\_funct\_2 X2 X0 k6\_margrel1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 k6\_margrel1)))))) \Rightarrow ((r1\_bvfunc\_1 X0 X1 X2) \Leftrightarrow (\forall X3. \\ & (m1\_subset\_1 X3 X0) \Rightarrow ((k3\_funct\_2 X0 k6\_margrel1 X1 X3 = k8\_margrel1) \Rightarrow \\ & (k3\_funct\_2 X0 k6\_margrel1 X2 X3 = k8\_margrel1)))))) \\ & \tag{3} \end{aligned}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge \\ & (v1\_funct\_2 X1 X0 k6\_margrel1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 ( \\ & k2\_zfmisc\_1 X0 k6\_margrel1)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge \\ & ((v1\_funct\_2 X2 X0 k6\_margrel1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 k6\_margrel1)))))) \Rightarrow ((ReplSep (toset (\lambda X3 : \iota. \\ & m1\_subset\_1 X3 X0)) (\lambda X3 : \iota. k3\_funct\_2 X0 k6\_margrel1 X1 X3 = \\ & k8\_margrel1) (\lambda X3 : \iota. X3) = ReplSep (toset (\lambda X3 : \iota. m1\_subset\_1 \\ & X3 X0)) (\lambda X3 : \iota. k3\_funct\_2 X0 k6\_margrel1 X2 X3 = k8\_margrel1) \\ & (\lambda X3 : \iota. X3))) \Rightarrow (r2\_funct\_2 X0 k6\_margrel1 X1 X2))) \end{aligned}$$