

# t11\_partit\_2 (TMKP- wZNF8Up7XkripvMaYFpLgfwd4DRLFny)

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  $r1\_bvfunc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_bvfunc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $np\_0 : \iota$  be given. Let  $k9\_margrel1 : \iota \Rightarrow \iota$  be given. Let  $k3\_xboolean : \iota \Rightarrow \iota$  be given. Let  $k8\_margrel1 : \iota$  be given. Let  $k2\_xboolean : \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k13\_margrel1 : \iota \Rightarrow \iota$  be given. Let  $k15\_margrel1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_margrel1 : \iota \Rightarrow o$  be given. Let  $v1\_xboolean : \iota \Rightarrow o$  be given. Let  $k1\_xboolean : \iota$  be given. Assume the following.

$$k6\_xcmplx\_0 \ np\_1 \ np\_1 = np\_0 \tag{1}$$

Assume the following.

$$\forall X0.(m1\_subset\_1 \ X0 \ k6\_margrel1) \Rightarrow (k9\_margrel1 \ X0 = k3\_xboolean \ X0) \tag{2}$$

Assume the following.

$$k8\_margrel1 = k2\_xboolean \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 \ X0) \wedge ((v1\_funct\_1 \ X2) \wedge ((v1\_funct\_2 \ X2 \ X0 \ X1) \wedge (m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ X0 \ X1)))))) \wedge (m1\_subset\_1 \ X3 \ X0)) \Rightarrow (k3\_funct\_2 \ X0 \ X1 \ X2 \ X3 = k1\_funct\_1 \ X2 \ X3) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 \ X0) \wedge ((v1\_funct\_1 \ X1) \wedge ((v1\_funct\_2 \ X1 \ X0 \ k6\_margrel1) \wedge (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ X0 \ k6\_margrel1)))))) \Rightarrow (k1\_bvfunc\_1 \ X0 \ X1 = k13\_margrel1 \ X1) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 X1)\wedge(v1\_funct\_2 X1 X0 k6\_margrel1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k6\_margrel1))))))\Rightarrow(k15\_margrel1 X0 X1 = k13\_margrel1 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 X1)\wedge(v1\_funct\_2 X1 X0 k6\_margrel1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k6\_margrel1))))))\Rightarrow(k1\_bvfunc\_1 X0 (k1\_bvfunc\_1 X0 X1) = X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_margrel1 X0)))\Rightarrow(v1\_xboolean (k1\_funct\_1 X0 X1)) \quad (8)$$

Assume the following.

$$m1\_subset\_1 k8\_margrel1 k6\_margrel1 \quad (9)$$

Assume the following.

$$\forall X0.(v1\_xboolean X0)\Rightarrow(v1\_xboolean (k3\_xboolean X0)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 X1)\wedge(v1\_funct\_2 X1 X0 k6\_margrel1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k6\_margrel1))))))\Rightarrow((v1\_funct\_1 (k1\_bvfunc\_1 X0 X1))\wedge((v1\_funct\_2 (k1\_bvfunc\_1 X0 X1) X0 k6\_margrel1)\wedge(m1\_subset\_1 (k1\_bvfunc\_1 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k6\_margrel1)))))) \quad (11)$$

Assume the following.

$$\forall X0.(v1\_xboolean X0)\Rightarrow(k3\_xboolean X0 = k6\_xcmplx\_0 np\_1 X0) \quad (12)$$

Assume the following.

$$\forall X0.(v1\_xboolean X0)\Leftrightarrow((X0 = k1\_xboolean)\vee(X0 = k2\_xboolean)) \quad (13)$$

Assume the following.

$$k2\_xboolean = np\_1 \quad (14)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ( \\
& (v1\_funct\_2 X1 X0 k6\_margrel1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 ( \\
& k2\_zfmisc\_1 X0 k6\_margrel1)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge \\
& ((v1\_funct\_2 X2 X0 k6\_margrel1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 k6\_margrel1)))))) \Rightarrow ((X2 = k15\_margrel1 X0 X1) \Leftrightarrow ( \\
& \forall X3.(m1\_subset\_1 X3 X0) \Rightarrow (k3\_funct\_2 X0 k6\_margrel1 X2 X3 = \\
& k9\_margrel1 (k3\_funct\_2 X0 k6\_margrel1 X1 X3))))))
\end{aligned} \tag{15}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ( \\
& (v1\_funct\_2 X1 X0 k6\_margrel1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 ( \\
& k2\_zfmisc\_1 X0 k6\_margrel1)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge \\
& ((v1\_funct\_2 X2 X0 k6\_margrel1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 k6\_margrel1)))))) \Rightarrow ((r1\_bvfunc\_1 X0 X1 X2) \Leftrightarrow (\forall X3. \\
& (m1\_subset\_1 X3 X0) \Rightarrow ((k3\_funct\_2 X0 k6\_margrel1 X1 X3 = k8\_margrel1) \Rightarrow \\
& (k3\_funct\_2 X0 k6\_margrel1 X2 X3 = k8\_margrel1))))))
\end{aligned} \tag{16}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& X0 k6\_margrel1))) \Rightarrow (((v1\_funct\_1 X1) \wedge (v1\_funct\_2 X1 X0 k6\_margrel1)) \Rightarrow \\
& ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 X0 k6\_margrel1) \wedge (v1\_margrel1 \\
& X1))))
\end{aligned} \tag{17}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
& (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2)
\end{aligned} \tag{18}$$

**Theorem 1**

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