

## t11\_bvfunc\_2

(TMUw7q1TViDrYT2hXgFc2HFePikGpRownBF)

October 27, 2020

Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_partit1 : \iota \Rightarrow \iota$  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  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_eqrel\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_bvfunc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_bvfunc\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_bvfunc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_bvfunc\_2 : \iota \Rightarrow \iota$  be given. Let  $k5\_bvfunc\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ( \\ (v1\_funct\_2 X1 X0 k6\_margrel1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 ( \\ k2\_zfmisc\_1 X0 k6\_margrel1)))))) \Rightarrow (\forall X2.(m1\_eqrel\_1 X2 X0) \Rightarrow \\ (r1\_bvfunc\_1 X0 (k16\_bvfunc\_1 X0 X1 X2) X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.k1\_bvfunc\_2 X0 = k1\_partit1 X0 \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0) \wedge ((m1\_eqrel\_1 \\ X1 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k1\_bvfunc\_2 X0)))))) \Rightarrow (m1\_eqrel\_1 \\ (k5\_bvfunc\_2 X0 X1 X2) X0) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ( \\ (v1\_funct\_2 X1 X0 k6\_margrel1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 ( \\ k2\_zfmisc\_1 X0 k6\_margrel1)))))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 \\ (k1\_zfmisc\_1 (k1\_bvfunc\_2 X0))) \Rightarrow (\forall X3.(m1\_eqrel\_1 X3 X0) \Rightarrow \\ (k6\_bvfunc\_2 X0 X1 X2 X3 = k16\_bvfunc\_1 X0 X1 (k5\_bvfunc\_2 X0 X3 X2)))))) \end{aligned} \quad (4)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (k1\_partit1 X0))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\ X2 X0 k6\_margrel1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ X0 k6\_margrel1)))))) \Rightarrow (\forall X3.(m1\_eqrel\_1 X3 X0) \Rightarrow (r1\_bvfunc\_1 \\ X0 (k6\_bvfunc\_2 X0 X2 X1 X3) X2)))) \end{aligned}$$