

# l26\_toprealb

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k2\_topalg\_2 : \iota$  be given. Let  $k1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_toprealb : \iota \Rightarrow \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k1\_fcont\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  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  $k6\_numbers : \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_funct\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ k1\_numbers k1\_numbers)))) \Rightarrow ((k1\_relset\_1 k1\_numbers X0 = k1\_numbers) \Rightarrow \\ (k1\_pre\_topc k2\_topalg\_2 (k5\_toprealb (k1\_relset\_1 k1\_numbers \\ X0)) = k2\_topalg\_2)) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow ((X0 \neq \\ k6\_numbers) \Rightarrow (k2\_relset\_1 k1\_numbers (k1\_fcont\_1 X0 X1) = k1\_numbers))) \tag{2}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{3}$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \tag{4}$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \tag{5}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1\_xreal\_0 X0) \wedge (v1\_xreal\_0 X1)) \Rightarrow ((v1\_funct\_1 \\ (k1\_fcont\_1 X0 X1)) \wedge ((v1\_funct\_2 (k1\_fcont\_1 X0 X1) k1\_numbers \\ k1\_numbers) \wedge (m1\_subset\_1 (k1\_fcont\_1 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ k1\_numbers k1\_numbers)))))) \end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))) \Rightarrow (((X1 \neq k1\_xboole\_0) \Rightarrow ((v1\_funct\_2 X2 X0 \\ & X1) \Leftrightarrow (X0 = k1\_relset\_1 X0 X2))) \wedge ((X1 = k1\_xboole\_0) \Rightarrow ((v1\_funct\_2 \\ & X2 X0 X1) \Leftrightarrow (X2 = k1\_xboole\_0)))) \end{aligned} \quad (7)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((\neg v1\_xboole\_0 X0) \wedge (v1\_xreal\_0 X0)) \Rightarrow (\forall X1. \\ & (v1\_xreal\_0 X1) \Rightarrow ((k2\_topalg\_2 = k1\_pre\_topc k2\_topalg\_2 (k5\_toprealb \\ & (k1\_relset\_1 k1\_numbers (k1\_fcont\_1 X0 X1)))) \wedge (k2\_topalg\_2 = \\ & k1\_pre\_topc k2\_topalg\_2 (k5\_toprealb (k2\_relset\_1 k1\_numbers \\ & (k1\_fcont\_1 X0 X1))))) \end{aligned}$$