

# t17\_rfunct\_3 (TMTHQQNPQoTCJHHEmgtcuTi- JabCjiHh6PNt)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k4\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_rfunct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k13\_rfunct\_3 : \iota \Rightarrow \iota$  be given. Let  $k4\_rfunct\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_subset\_1 : \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $r3\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_rfunct\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_rfunct\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k4\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  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  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$m1\_subset\_1 k1\_xboole\_0 k4\_ordinal1 \quad (3)$$

Assume the following.

$$\forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (r3\_binop\_1 (k3\_rfunct\_3 X0 k1\_numbers) (k4\_rfunct\_3 X0 k1\_numbers (k2\_subset\_1 X0) k6\_numbers) (k13\_rfunct\_3 X0)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 X2) \wedge (m1\_rfunct\_3 X2 X0 X1)) \Rightarrow (\forall X3. (m2\_rfunct\_3 X3 X0 X1 X2) \Leftrightarrow (m1\_subset\_1 X3 X2)) \quad (5)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (6)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.k3\_rfuncnt\_3 X0 X1 = k4\_partfun1 X0 X1 \quad (8)$$

Assume the following.

$$\neg v1\_finset\_1 k4\_ordinal1 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\neg v1\_xboole\_0 (k4\_partfun1 X0 X1) \quad (10)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \quad (11)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0) \wedge \\ & ((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)) \wedge (m1\_subset\_1 \\ & X3 X1))) \Rightarrow (m2\_rfuncnt\_3 (k4\_rfuncnt\_3 X0 X1 X2 X3) X0 X1 (k3\_rfuncnt\_3 \\ & X0 X1)) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.m1\_rfuncnt\_3 (k3\_rfuncnt\_3 X0 X1) X0 X1 \quad (14)$$

Assume the following.

$$\forall X0.m1\_subset\_1 (k2\_subset\_1 X0) (k1\_zfmisc\_1 X0) \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow ((v1\_funct\_1 (k13\_rfuncnt\_3 X0)) \wedge \\ & ((v1\_funct\_2 (k13\_rfuncnt\_3 X0) (k2\_zfmisc\_1 (k3\_rfuncnt\_3 X0 k1\_numbers) \\ & (k3\_rfuncnt\_3 X0 k1\_numbers)) (k3\_rfuncnt\_3 X0 k1\_numbers)) \wedge (m1\_subset\_1 \\ & (k13\_rfuncnt\_3 X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 (k3\_rfuncnt\_3 \\ & X0 k1\_numbers) (k3\_rfuncnt\_3 X0 k1\_numbers)) (k3\_rfuncnt\_3 X0 k1\_numbers)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (k2\_zfmisc\_1 \\ & X0 X0) X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X0) X0)))))) \Rightarrow ((\exists X2. (m1\_subset\_1 X2 X0) \wedge (r3\_binop\_1 X0 \\ & X2 X1)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 X0) \Rightarrow ((X2 = k4\_binop\_1 X0 X1) \Leftrightarrow \\ & (r3\_binop\_1 X0 X2 X1)))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0. k2\_subset\_1 X0 = X0 \quad (18)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (v1\_finset\_1 X0) \quad (19)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (k4\_binop\_1 (k3\_rfunct\_3 X0 k1\_numbers) \\ & (k13\_rfunct\_3 X0) = k4\_rfunct\_3 X0 k1\_numbers (k2\_subset\_1 X0) \\ & k6\_numbers) \end{aligned}$$