

# t18\_partfun2

(TMTvozK5WNHG8WG3o7BeiAKhvxYDbCLSfdp)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow (((X0 \in k9\_xtuple\_0 X2) \wedge (X0 \in X1)) \Rightarrow (k1\_funct\_1 X2 X0 \in k10\_xtuple\_0 (k5\_relat\_1 X2 X1))) \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v5\_relat\_1 X1 X0)) \Rightarrow (k2\_relset\_1 X0 X1 = k10\_xtuple\_0 X1) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (k2\_partfun1 X0 X1 X2 X3 = k5\_relat\_1 X2 X3) \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (((v1\_funct\_1 (k2\_partfun1 X0 X1 X2 X3)) \wedge (m1\_subset\_1 (k2\_partfun1 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge((v5\_relat\_1 X1 X0)\wedge(v1\_funct\_1 X1)))\Rightarrow(\forall X2.(X2 \in k9\_xtuple\_0 X1)\Rightarrow(k7\_partfun1 X0 X1 X2 = k1\_funct\_1 X1 X2)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow((v4\_relat\_1 X2 X0)\wedge(v5\_relat\_1 X2 X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \quad (8)$$

**Theorem 1**

$$\forall X0.\forall X1.(\neg v1\_xboole\_0 X1)\Rightarrow(\forall X2.(\neg v1\_xboole\_0 X2)\Rightarrow(\forall X3.(m1\_subset\_1 X3 X1)\Rightarrow(\forall X4.((v1\_funct\_1 X4)\wedge(m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 X2))))\Rightarrow(((X3 \in k1\_relset\_1 X1 X4)\wedge(X3 \in X0))\Rightarrow(k7\_partfun1 X2 X4 X3 \in k2\_relset\_1 X2 (k2\_partfun1 X1 X2 X4 X0))))))$$