

t59\_partfun2  
(TMZDLPN6VfZRZFC2K7sLxf6EKySQjPbHKAy)

October 27, 2020

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  $k7\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 X0) \Rightarrow (\forall X3.(m1\_subset\_1 X3 X1) \Rightarrow \\ & (\forall X4.((v1\_funct\_1 X4) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))) \Rightarrow (((X2 \in k1\_relset\_1 X0 X4) \wedge (X3 = k7\_partfun1 X1 X4 X2)) \Leftrightarrow \\ & (k4\_tarski X2 X3 \in X4)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow (\forall X2.(\neg v1\_xboole\_0 \\ & X2) \Rightarrow (\forall X3.(m1\_subset\_1 X3 X2) \Rightarrow (\forall X4.((v1\_funct\_1 \\ & X4) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 X2)))) \Rightarrow ((X3 \in \\ & k7\_relset\_1 X1 X2 X4 X0) \Leftrightarrow (\exists X5.(m1\_subset\_1 X5 X1) \wedge ((X5 \in \\ & k1\_relset\_1 X1 X4) \wedge ((X5 \in X0) \wedge (X3 = k7\_partfun1 X2 X4 X5)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1\_relat\_1 X2) \wedge (v1\_funct\_1 \\ & X2)) \Rightarrow ((k4\_tarski X0 X1 \in X2) \Leftrightarrow ((X0 \in k9\_xtuple\_0 X2) \wedge (X1 = k1\_funct\_1 \\ & X2 X0))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \end{aligned} \tag{4}$$

**Theorem 1**

$$\begin{aligned} & \forall X0. \forall X1. (\neg v1\_xboole\_0 X1) \Rightarrow (\forall X2. (\neg v1\_xboole\_0 \\ & X2) \Rightarrow (\forall X3. (m1\_subset\_1 X3 X1) \Rightarrow (\forall X4. ((v1\_funct\_1 \\ & X4) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X2 X1)))) \Rightarrow (\neg (X3 \in \\ & k7\_relset\_1 X2 X1 X4 X0) \wedge (\forall X5. (m1\_subset\_1 X5 X2) \Rightarrow (\neg (X5 \in \\ & k1\_relset\_1 X2 X4) \wedge ((X5 \in X0) \wedge (X3 = k1\_funct\_1 X4 X5)))))))))) \end{aligned}$$