l57_mod_2 (TMKHry5RTpc5E4TRHcT8zPd8eLSoJFYdnpo)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_classes2 : \iota \Rightarrow o$ 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. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X2) \wedge (v1\_classes2\ X2)) \Rightarrow (((X0 \in X2) \wedge (X1 \in X2)) \Rightarrow ((k2\_zfmisc\_1\ X0\ X1 \in X2) \wedge (k1\_funct\_2\ X0\ X1 \in X2))) \tag{1}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (\forall X2.((\neg v1\_xboole\_0\ X2) \wedge (v1\_classes2\ X2)) \Rightarrow (\forall X3.((v1\_funct\_1\ X3) \wedge ((v1\_funct\_2\ X3\ X0\ X1) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))) \Rightarrow (((X0 \in X2) \wedge (X1 \in X2)) \Rightarrow (X3 \in X2))))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge (\neg v1\_xboole\_0\ X1)) \Rightarrow (\neg v1\_xboole\_0\ (k2\_zfmisc\_1\ X0\ X1)) \tag{3}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge (v1\_classes2\ X1)) \Rightarrow ((\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ X0) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))) \Rightarrow ((X0 \in X1) \Rightarrow (X2 \in X1))) \wedge (\forall X2.((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ X0\ X0) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0))))) \Rightarrow ((X0 \in X1) \Rightarrow (X2 \in X1)))))$$