t36_funcop_1 (TMMFU5wXjqvaC7VPjHKdLC27TAazxoHRZL8)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ 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 $k3\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14\_funct\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13\_funct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5.\ (((v1\_funct\_1\ X4) \wedge (m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))) \wedge ((v1\_funct\_1\ X5) \wedge (m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X2\ X3))))) \Rightarrow (k1\_partfun1\ X0\ X1\ X2\ X3\ X4\ X5 = k3\_relat\_1\ X4\ X5) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1\_xboole\_0\ X1) \wedge ((\neg v1\_xboole\_0\ X2) \wedge (((v1\_funct\_1\ X3) \wedge ((v1\_funct\_2\ X3\ X0\ X1) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))) \wedge ((v1\_funct\_1\ X4) \wedge ((v1\_funct\_2\ X4\ X0\ X2) \wedge (m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X2)))))))) \Rightarrow (k14\_funct\_3\ X0\ X1\ X2\ X3\ X4 = k13\_funct\_3\ X3\ X4) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1\_xboole\_0\ X1) \wedge (((v1\_funct\_1\ X3) \wedge ((v1\_funct\_2\ X3\ X0\ X1) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))) \wedge ((v1\_funct\_1\ X4) \wedge ((v1\_funct\_2\ X4\ X1\ X2) \wedge (m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X2))))))) \Rightarrow ((v1\_funct\_1\ (k3\_relat\_1\ X3\ X4)) \wedge (v1\_funct\_2\ (k3\_relat\_1\ X3\ X4)\ X0\ X2)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1\ (k2\_zfmisc\_1\ X0\ X1) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\wedge(((v1\_relat\_1\ X1)\wedge(v1\_funct\_1\ X1))\wedge((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))))\Rightarrow((v1\_relat\_1\ (k3\_funcop\_1\ X0\ X1\ X2))\wedge(v1\_funct\_1\ (k3\_funcop\_1\ X0\ X1\ X2))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge(\neg v1\_xboole\_0\ X1))\Rightarrow(\neg v1\_xboole\_0\ (k2\_zfmisc\_1\ X0\ X1)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5.(((v1\_funct\_1\ X4)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))\wedge((v1\_funct\_1\ X5)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X2\ X3)))))\Rightarrow((v1\_funct\_1\ (k1\_partfun1\ X0\ X1\ X2\ X3\ X4\ X5))\wedge(m1\_subset\_1\ (k1\_partfun1\ X0\ X1\ X2\ X3\ X4\ X5)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X3)))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1\_xboole\_0\ X1)\wedge((\neg v1\_xboole\_0\ X2)\wedge(((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ X0\ X1)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\wedge((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ X0\ X2)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X2))))))))\Rightarrow((v1\_funct\_1\ (k14\_funct\_3\ X0\ X1\ X2\ X3\ X4))\wedge((v1\_funct\_2\ (k14\_funct\_3\ X0\ X1\ X2\ X3\ X4)\ X0\ (k2\_zfmisc\_1\ X1\ X2))\wedge(m1\_subset\_1\ (k14\_funct\_3\ X0\ X1\ X2\ X3\ X4)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ (k2\_zfmisc\_1\ X1\ X2))))))) \tag{8}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge(v1\_funct\_1\ X1))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge(v1\_funct\_1\ X2))\Rightarrow(k3\_funcop\_1\ X0\ X1\ X2 = k3\_relat\_1\ (k13\_funct\_3\ X1\ X2)\ X0))) \tag{9}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_relat\_1\ X1)) \tag{10}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ X1\ X0)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X0)))))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ X1\ X0)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X0)))))\Rightarrow((v1\_funct\_1\ (k3\_funcop\_1\ X2\ X3\ X4))\wedge((v1\_funct\_2\ (k3\_funcop\_1\ X2\ X3\ X4)\ X1\ X0)\wedge(m1\_subset\_1\ (k3\_funcop\_1\ X2\ X3\ X4)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X0))))))))$$