t68_fvaluat1 (TMcea4zxDd1JtWVTBhqgu5yihRd2z9cYRR8)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v13\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v3\_group\_1 : \iota \Rightarrow o$ be given. Let $v4\_vectsp\_1 : \iota \Rightarrow o$ be given. Let $v5\_vectsp\_1 : \iota \Rightarrow o$ be given. Let $v2\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v3\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v4\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $l6\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_ideal\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2\_ideal\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3\_ideal\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $m2\_fvaluat1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_algstr\_0 : \iota \Rightarrow \iota$ be given. Let $u2\_algstr\_0 : \iota \Rightarrow \iota$ be given. Let $u2\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $g1\_vectsp\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_vectsp\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $k4\_vectsp\_2 : \iota \Rightarrow \iota$ be given. Let $v2\_vectsp\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4\_vectsp\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l1\_algstr\_0 : \iota \Rightarrow o$ be given. Let $m1\_rmod\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1\_vectsp\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l5\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l4\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l4\_struct\_0 : \iota \Rightarrow o$ be given. Let $l3\_struct\_0 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_funct\_1\ X2) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))) \Rightarrow (k2\_partfun1\ X0\ X1\ X2\ X3 = k5\_relat\_1\ X2\ X3) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((l1\_struct\_0\ X0)\wedge(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X1\ X1)\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X1)\ X1)))))\wedge((m1\_subset\_1\ X3\ X1)\wedge((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (k2\_zfmisc\_1\ X1\ (u1\_struct\_0\ X0))\ X1)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ (u1\_struct\_0\ X0))\ X1)))))))\Rightarrow(\forall X5.\forall X6.\forall X7.\forall X8.\forall X9.(g1\_vectsp\_2\ X0\ X1\ X2\ X3\ X4 = g1\_vectsp\_2\ X5\ X6\ X7\ X8\ X9)\Rightarrow((X0 = X5)\wedge((X1 = X6)\wedge((X2 = X7)\wedge((X3 = X8)\wedge(X4 = X9))))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v3\_group\_1\ X0)\wedge((v4\_vectsp\_1\ X0)\wedge((v5\_vectsp\_1\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge(l6\_algstr\_0\ X0)))))))\Rightarrow((\neg v2\_struct\_0\ (k4\_vectsp\_2\ X0))\wedge((v13\_algstr\_0\ (k4\_vectsp\_2\ X0))\wedge((v2\_rlvect\_1\ (k4\_vectsp\_2\ X0))\wedge((v3\_rlvect\_1\ (k4\_vectsp\_2\ X0))\wedge((v4\_rlvect\_1\ (k4\_vectsp\_2\ X0))\wedge((v2\_vectsp\_2\ (k4\_vectsp\_2\ X0)\ X0)\wedge(v4\_vectsp\_2\ (k4\_vectsp\_2\ X0)\ X0))))))) \tag{3}$$

Assume the following.

$$\forall X0.(l3\_algstr\_0\ X0)\Rightarrow((v1\_funct\_1\ (u2\_algstr\_0\ X0))\wedge((v1\_funct\_2\ (u2\_algstr\_0\ X0)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ (u2\_algstr\_0\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)))))) \tag{4}$$

Assume the following.

$$\forall X0.(l1\_algstr\_0\ X0)\Rightarrow((v1\_funct\_1\ (u1\_algstr\_0\ X0))\wedge((v1\_funct\_2\ (u1\_algstr\_0\ X0)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ (u1\_algstr\_0\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)))))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ X0\ X1)\Rightarrow(m1\_subset\_1\ X2\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v3\_group\_1\ X0)\wedge((v4\_vectsp\_1\ X0)\wedge((v5\_vectsp\_1\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge(l6\_algstr\_0\ X0))))))))))\wedge((\neg v1\_xboole\_0\ X1)\wedge((v1\_ideal\_1\ X1\ X0)\wedge((v3\_ideal\_1\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))))))\Rightarrow(\forall X2.(m2\_fvaluat1\ X2\ X0\ X1)\Rightarrow(m1\_rmod\_2\ X2\ X0\ (k4\_vectsp\_2\ X0))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v3\_group\_1\ X0)\wedge((v4\_vectsp\_1\ X0)\wedge((v5\_vectsp\_1\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge(l6\_algstr\_0\ X0))))))))))\wedge((\neg v2\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v4\_vectsp\_2\ X1\ X0)\wedge(l1\_vectsp\_2\ X1\ X0))))))))\Rightarrow(\forall X2.(m1\_rmod\_2\ X2\ X0\ X1)\Rightarrow((\neg v2\_struct\_0\ X2)\wedge((v13\_algstr\_0\ X2)\wedge((v2\_rlvect\_1\ X2)\wedge((v3\_rlvect\_1\ X2)\wedge((v4\_rlvect\_1\ X2)\wedge((v4\_vectsp\_2\ X2\ X0)\wedge(l1\_vectsp\_2\ X2\ X0))))))))) \tag{8}$$

Assume the following.

$$\forall X0.(l6\_algstr\_0\ X0)\Rightarrow((l2\_algstr\_0\ X0)\wedge(l5\_algstr\_0\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.(l5\_algstr\_0\ X0)\Rightarrow((l4\_algstr\_0\ X0)\wedge(l4\_struct\_0\ X0)) \tag{10}$$

Assume the following.

$$\forall X0.(l4\_algstr\_0\ X0)\Rightarrow((l3\_struct\_0\ X0)\wedge(l3\_algstr\_0\ X0)) \tag{11}$$

Assume the following.

$$\forall X0.(l2\_struct\_0\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{12}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow((l2\_struct\_0\ X0)\wedge(l1\_algstr\_0\ X0)) \tag{13}$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0)\Rightarrow(\forall X1.(l1\_vectsp\_2\ X1\ X0)\Rightarrow(l2\_algstr\_0\ X1)) \tag{14}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v3\_group\_1\ X0)\wedge((v4\_vectsp\_1\ X0)\wedge((v5\_vectsp\_1\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge(l6\_algstr\_0\ X0))))))))))\Rightarrow((\neg v2\_struct\_0\ (k4\_vectsp\_2\ X0))\wedge((v13\_algstr\_0\ (k4\_vectsp\_2\ X0))\wedge((v2\_rlvect\_1\ (k4\_vectsp\_2\ X0))\wedge((v3\_rlvect\_1\ (k4\_vectsp\_2\ X0))\wedge((v4\_rlvect\_1\ (k4\_vectsp\_2\ X0))\wedge((v2\_vectsp\_2\ (k4\_vectsp\_2\ X0)\ X0)\wedge(l1\_vectsp\_2\ (k4\_vectsp\_2\ X0)\ X0))))))) \tag{15}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v3\_group\_1\ X0)\wedge((v4\_vectsp\_1\ X0)\wedge((v5\_vectsp\_1\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge(l6\_algstr\_0\ X0))))))))\Rightarrow(k4\_vectsp\_2\ X0 = g1\_vectsp\_2\ X0\ (u1\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ (k4\_struct\_0\ X0)\ (u2\_algstr\_0\ X0)) \tag{16}$$

Assume the following.

$$\forall X0.(l2\_struct\_0\ X0)\Rightarrow(k4\_struct\_0\ X0 = u2\_struct\_0\ X0) \tag{17}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v3\_group\_1\ X0)\wedge((v4\_vectsp\_1\ X0)\wedge((v5\_vectsp\_1\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge(l6\_algstr\_0\ X0))))))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v13\_algstr\_0\ X1)\wedge((v2\_rlvect\_1\ X1)\wedge((v3\_rlvect\_1\ X1)\wedge((v4\_rlvect\_1\ X1)\wedge((v4\_vectsp\_2\ X1\ X0)\wedge(l1\_vectsp\_2\ X1\ X0)))))))\Rightarrow(\forall X2.((\neg v2\_struct\_0\ X2)\wedge((v13\_algstr\_0\ X2)\wedge((v2\_rlvect\_1\ X2)\wedge((v3\_rlvect\_1\ X2)\wedge((v4\_rlvect\_1\ X2)\wedge((v4\_vectsp\_2\ X2\ X0)\wedge(l1\_vectsp\_2\ X2\ X0)))))))\Rightarrow((m1\_rmod\_2\ X2\ X0\ X1)\Leftrightarrow((r1\_tarski\ (u1\_struct\_0\ X2)\ (u1\_struct\_0\ X1))\wedge((k4\_struct\_0\ X2 = k4\_struct\_0\ X1)\wedge((u1\_algstr\_0\ X2 = k5\_relat\_1\ (u1\_algstr\_0\ X1)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X2)\ (u1\_struct\_0\ X2)))\wedge(u1\_vectsp\_2\ X0\ X2 = k5\_relat\_1\ (u1\_vectsp\_2\ X0\ X1)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X2)\ (u1\_struct\_0\ X0)))))))) \tag{18}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v3\_group\_1\ X0)\wedge((v4\_vectsp\_1\ X0)\wedge((v5\_vectsp\_1\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge(l6\_algstr\_0\ X0))))))))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge((v1\_ideal\_1\ X1\ X0)\wedge((v3\_ideal\_1\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))))\Rightarrow(\forall X2.(m1\_rmod\_2\ X2\ X0\ (k4\_vectsp\_2\ X0))\Rightarrow((m2\_fvaluat1\ X2\ X0\ X1)\Leftrightarrow(u1\_struct\_0\ X2 = X1)))) \tag{19}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \tag{20}$$

Assume the following.

$$\forall X0.\forall X1.((l1\_struct\_0\ X0)\wedge(l1\_vectsp\_2\ X1\ X0))\Rightarrow((v2\_vectsp\_2\ X1\ X0)\Rightarrow(X1 = g1\_vectsp\_2\ X0\ (u1\_struct\_0\ X1)\ (u1\_algstr\_0\ X1)\ (u2\_struct\_0\ X1)\ (u1\_vectsp\_2\ X0\ X1))) \tag{21}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v3\_group\_1\ X0)\wedge((v4\_vectsp\_1\ X0)\wedge((v5\_vectsp\_1\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge(l6\_algstr\_0\ X0))))))))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge((v1\_ideal\_1\ X1\ X0)\wedge((v2\_ideal\_1\ X1\ X0)\wedge((v3\_ideal\_1\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))))))\Rightarrow(\forall X2.(m2\_fvaluat1\ X2\ X0\ X1)\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k2\_zfmisc\_1\ X1\ X1)\ X1)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X1)\ X1)))))\Rightarrow(\forall X4.(m2\_subset\_1\ X4\ (u1\_struct\_0\ X0)\ X1)\Rightarrow(\forall X5.((v1\_funct\_1\ X5)\wedge((v1\_funct\_2\ X5\ (k2\_zfmisc\_1\ X1\ (u1\_struct\_0\ X0))\ X1)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ (u1\_struct\_0\ X0))\ X1)))))\Rightarrow(((X3 = k2\_partfun1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ (k2\_zfmisc\_1\ X1\ X1))\wedge((X5 = k2\_partfun1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)\ (u2\_algstr\_0\ X0)\ (k2\_zfmisc\_1\ X1\ (u1\_struct\_0\ X0)))\wedge(X4 = u2\_struct\_0\ X0)))\Rightarrow(g1\_vectsp\_2\ X0\ (u1\_struct\_0\ X2)\ (u1\_algstr\_0\ X2)\ (u2\_struct\_0\ X2)\ (u1\_vectsp\_2\ X0\ X2) = g1\_vectsp\_2\ X0\ X1\ X3\ X4\ X5)))))))$$