t20_csspace (TMUTcZi49yVCCJzBW7qGcHRrx3j99wK1oHK)

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Let $v1\_xcmplx\_0 : \iota \Rightarrow o$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v13\_algstr\_0 : \iota \Rightarrow o$ 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 $v2\_clvect\_1 : \iota \Rightarrow o$ be given. Let $v3\_clvect\_1 : \iota \Rightarrow o$ be given. Let $v4\_clvect\_1 : \iota \Rightarrow o$ be given. Let $v5\_clvect\_1 : \iota \Rightarrow o$ be given. Let $v2\_csspace : \iota \Rightarrow o$ be given. Let $l1\_csspace : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k12\_csspace : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_clvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_algstr\_0 : \iota \Rightarrow o$ be given. Let $k1\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_clvect\_1 : \iota \Rightarrow o$ be given. Let $k6\_numbers : \iota$ be given. Let $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_complex1 : \iota \Rightarrow \iota$ be given. Let $k4\_complex1 : \iota \Rightarrow \iota$ be given. Let $k15\_complex1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v2\_rlvect\_1\ X0) \wedge (l1\_algstr\_0\ X0)) \wedge ((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \wedge (m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)))) \Rightarrow (k3\_rlvect\_1\ X0\ X1\ X2 = k1\_algstr\_0\ X0\ X1\ X2) \tag{1}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0) \Rightarrow ((l2\_struct\_0\ X0) \wedge (l1\_algstr\_0\ X0)) \tag{2}$$

Assume the following.

$$\forall X0.(l1\_csspace\ X0) \Rightarrow (l1\_clvect\_1\ X0) \tag{3}$$

Assume the following.

$$\forall X0.(l1\_clvect\_1\ X0) \Rightarrow (l2\_algstr\_0\ X0) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0) \wedge (l1\_clvect\_1\ X0)) \wedge ((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \wedge (v1\_xcmplx\_0\ X2))) \Rightarrow (m1\_subset\_1\ (k1\_clvect\_1\ X0\ X1\ X2)\ (u1\_struct\_0\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_csspace\ X0))\Rightarrow((v2\_csspace\ X0)\Leftrightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(v1\_xcmplx\_0\ X4)\Rightarrow(((k12\_csspace\ X0\ X1\ X1 = k6\_numbers)\Rightarrow(X1 = k4\_struct\_0\ X0))\wedge(((X1 = k4\_struct\_0\ X0)\Rightarrow(k12\_csspace\ X0\ X1\ X1 = k6\_numbers))\wedge((r1\_xxreal\_0\ k6\_numbers\ (k3\_complex1\ (k12\_csspace\ X0\ X1\ X1)))\wedge((k6\_numbers = k4\_complex1\ (k12\_csspace\ X0\ X1\ X1))\wedge((k12\_csspace\ X0\ X1\ X2 = k15\_complex1\ (k12\_csspace\ X0\ X2\ X1))\wedge((k12\_csspace\ X0\ (k1\_algstr\_0\ X0\ X1\ X2)\ X3 = k2\_xcmplx\_0\ (k12\_csspace\ X0\ X1\ X3)\ (k12\_csspace\ X0\ X2\ X3))\wedge(k12\_csspace\ X0\ (k1\_clvect\_1\ X0\ X1\ X4)\ X2 = k3\_xcmplx\_0\ X4\ (k12\_csspace\ X0\ X1\ X2))))))))))))) \tag{6}$$

Theorem 1

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(\forall X1.(v1\_xcmplx\_0\ X1)\Rightarrow(\forall X2.((\neg v2\_struct\_0\ X2)\wedge((v13\_algstr\_0\ X2)\wedge((v2\_rlvect\_1\ X2)\wedge((v3\_rlvect\_1\ X2)\wedge((v4\_rlvect\_1\ X2)\wedge((v2\_clvect\_1\ X2)\wedge((v3\_clvect\_1\ X2)\wedge((v4\_clvect\_1\ X2)\wedge((v5\_clvect\_1\ X2)\wedge((v2\_csspace\ X2)\wedge(l1\_csspace\ X2))))))))))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X2))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X2))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X2))\Rightarrow(k12\_csspace\ X2\ (k3\_rlvect\_1\ X2\ (k1\_clvect\_1\ X2\ X3\ X0)\ (k1\_clvect\_1\ X2\ X4\ X1))\ X5 = k2\_xcmplx\_0\ (k3\_xcmplx\_0\ X0\ (k12\_csspace\ X2\ X3\ X5))\ (k3\_xcmplx\_0\ X1\ (k12\_csspace\ X2\ X4\ X5))))))))$$