t28_complex2 (TMK9m6SZd6xB459ArYqqp3pb4sC8ry5Kurf)

October 27, 2020

Let $v1\_xcmplx\_0 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_numbers : \iota$ be given. Let $k1\_comptrig : \iota \Rightarrow \iota$ be given. Let $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_xcmplx\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $v2\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $v3\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $k10\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k32\_sin\_cos : \iota$ be given. Let $np\_\_2 : \iota$ be given. Let $k1\_real\_1 : \iota \Rightarrow \iota$ be given. Let $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_3 : \iota$ be given. Let $k26\_sin\_cos : \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $k15\_sin\_cos : \iota \Rightarrow \iota$ be given. Let $k17\_complex1 : \iota \Rightarrow \iota$ be given. Let $k7\_complex1 : \iota$ be given. Let $k18\_complex1 : \iota \Rightarrow \iota$ be given. Let $k17\_sin\_cos : \iota \Rightarrow \iota$ be given. Let $k20\_sin\_cos : \iota \Rightarrow \iota$ be given. Let $k3\_complex1 : \iota \Rightarrow \iota$ be given. Let $k4\_complex1 : \iota \Rightarrow \iota$ be given. Let $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_sin\_cos2 : \iota$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $np\_\_0 : \iota$ be given. Let $k1\_xcmplx\_0 : \iota$ be given. Let $k3\_sin\_cos2 : \iota \Rightarrow \iota$ be given. Let $k2\_sin\_cos2 : \iota \Rightarrow \iota$ be given. Let $v1\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $v1\_asympt\_0 : \iota \Rightarrow o$ be given. Let $v3\_membered : \iota \Rightarrow o$ be given. Let $v1\_membered : \iota \Rightarrow o$ be given. Let $v2\_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\neg(v1\_xboole\_0\ X0) \wedge ((X0 \neq X1) \wedge (v1\_xboole\_0\ X1)) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xreal\_0\ X1) \Rightarrow ((r1\_xxreal\_0\ X0\ X1) \Rightarrow ((v1\_xboole\_0\ X0) \vee ((v2\_xxreal\_0\ X1) \vee (v3\_xxreal\_0\ X0))))) \tag{2}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{3}$$

Assume the following.

$$(\neg r1\_xxreal\_0\ (k10\_real\_1\ k32\_sin\_cos\ np\_\_2)\ k6\_numbers)\wedge((\neg r1\_xxreal\_0\ k32\_sin\_cos\ (k10\_real\_1\ k32\_sin\_cos\ np\_\_2))\wedge((\neg r1\_xxreal\_0\ k32\_sin\_cos\ k6\_numbers)\wedge((\neg r1\_xxreal\_0\ (k10\_real\_1\ k32\_sin\_cos\ np\_\_2)\ (k1\_real\_1\ (k10\_real\_1\ k32\_sin\_cos\ np\_\_2)))\wedge((\neg r1\_xxreal\_0\ (k8\_real\_1\ np\_\_2\ k32\_sin\_cos)\ k32\_sin\_cos)\wedge((\neg r1\_xxreal\_0\ (k8\_real\_1\ (k10\_real\_1\ np\_\_3\ np\_\_2)\ k32\_sin\_cos)\ (k10\_real\_1\ k32\_sin\_cos\ np\_\_2))\wedge((\neg r1\_xxreal\_0\ k6\_numbers\ (k1\_real\_1\ (k10\_real\_1\ k32\_sin\_cos\ np\_\_2)))\wedge((\neg r1\_xxreal\_0\ (k8\_real\_1\ np\_\_2\ k32\_sin\_cos)\ k6\_numbers)\wedge((\neg r1\_xxreal\_0\ (k8\_real\_1\ (k10\_real\_1\ np\_\_3\ np\_\_2)\ k32\_sin\_cos)\ k32\_sin\_cos)\wedge((\neg r1\_xxreal\_0\ (k8\_real\_1\ np\_\_2\ k32\_sin\_cos)\ (k8\_real\_1\ (k10\_real\_1\ np\_\_3\ np\_\_2)\ k32\_sin\_cos))\wedge(\neg r1\_xxreal\_0\ (k8\_real\_1\ (k10\_real\_1\ np\_\_3\ np\_\_2)\ k32\_sin\_cos)\ k6\_numbers))))))))) \tag{4}$$

Assume the following.

$$k26\_sin\_cos\ k6\_numbers = np\_\_1 \tag{5}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(\forall X1.(v1\_xreal\_0\ X1)\Rightarrow(\neg(r1\_xxreal\_0\ X0\ X1)\wedge((\neg v2\_xxreal\_0\ X1)\wedge(v2\_xxreal\_0\ X0)))) \tag{6}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(k15\_sin\_cos\ X0 = k26\_sin\_cos\ X0) \tag{7}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(r1\_xxreal\_0\ k6\_numbers\ (k17\_complex1\ X0)) \tag{8}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(k3\_xcmplx\_0\ np\_\_1\ X0 = X0) \tag{9}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow((\neg r1\_xxreal\_0\ k6\_numbers\ X0)\Rightarrow(k1\_comptrig\ X0 = k32\_sin\_cos)) \tag{10}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow((r1\_xxreal\_0\ k6\_numbers\ X0)\Rightarrow(k1\_comptrig\ X0 = k6\_numbers)) \tag{11}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow((k17\_complex1\ (k15\_sin\_cos\ (k3\_xcmplx\_0\ X0\ k7\_complex1)) = np\_\_1)\wedge(\forall X1.(v1\_xreal\_0\ X1)\Rightarrow((r1\_xxreal\_0\ (k18\_complex1\ (k17\_sin\_cos\ X1))\ np\_\_1)\wedge(r1\_xxreal\_0\ (k18\_complex1\ (k20\_sin\_cos\ X1))\ np\_\_1))))) \tag{12}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ k1\_numbers)\Rightarrow((\neg r1\_xxreal\_0\ X1\ k6\_numbers)\Rightarrow(k1\_comptrig\ (k3\_xcmplx\_0\ X0\ X1) = k1\_comptrig\ X0))) \tag{13}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow((k1\_comptrig\ X0 = k32\_sin\_cos)\Leftrightarrow((\neg r1\_xxreal\_0\ k6\_numbers\ (k3\_complex1\ X0))\wedge(k4\_complex1\ X0 = k6\_numbers))) \tag{14}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow((k1\_comptrig\ X0 = k6\_numbers)\Leftrightarrow((r1\_xxreal\_0\ k6\_numbers\ (k3\_complex1\ X0))\wedge(k4\_complex1\ X0 = k6\_numbers))) \tag{15}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(\forall X1.(v1\_xcmplx\_0\ X1)\Rightarrow(k4\_xcmplx\_0\ (k3\_xcmplx\_0\ (k4\_xcmplx\_0\ X0)\ X1) = k3\_xcmplx\_0\ X0\ X1)) \tag{16}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(\forall X1.(v1\_xcmplx\_0\ X1)\Rightarrow(k3\_xcmplx\_0\ (k4\_xcmplx\_0\ X0)\ X1 = k4\_xcmplx\_0\ (k3\_xcmplx\_0\ X0\ X1))) \tag{17}$$

Assume the following.

$$k1\_seq\_1\ k1\_sin\_cos2\ k6\_numbers = k6\_numbers \tag{18}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(k3\_xcmplx\_0\ X0\ (k4\_xcmplx\_0\ np\_\_1) = k4\_xcmplx\_0\ X0) \tag{19}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_1)\wedge(m2\_subset\_1\ np\_\_1\ k1\_numbers\ k5\_numbers))\wedge((m1\_subset\_1\ np\_\_1\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_1\ k1\_numbers)) \tag{20}$$

Assume the following.

$$(m2\_subset\_1\ np\_\_0\ k1\_numbers\ k5\_numbers)\wedge((m1\_subset\_1\ np\_\_0\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_0\ k1\_numbers)) \tag{21}$$

Assume the following.

$$v1\_xboole\_0\ np\_\_0 \tag{22}$$

Assume the following.

$$k4\_xcmplx\_0\ (k4\_xcmplx\_0\ np\_\_1) = np\_\_1 \tag{23}$$

Assume the following.

$$k3\_xcmplx\_0\ np\_\_0\ k1\_xcmplx\_0 = np\_\_0 \tag{24}$$

Assume the following.

$$k7\_complex1 = k1\_xcmplx\_0 \tag{25}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{26}$$

Assume the following.

$$\forall X0.k3\_sin\_cos2\ X0 = k2\_sin\_cos2\ X0 \tag{27}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(k1\_real\_1\ X0 = k4\_xcmplx\_0\ X0) \tag{28}$$

Assume the following.

$$\exists X0.(m1\_subset\_1\ X0\ k1\_numbers)\wedge((v1\_xcmplx\_0\ X0)\wedge((v1\_xreal\_0\ X0)\wedge((v1\_xxreal\_0\ X0)\wedge(v1\_asympt\_0\ X0)))) \tag{29}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow((\neg r1\_xxreal\_0\ X0\ k6\_numbers)\Rightarrow(r1\_xxreal\_0\ k6\_numbers\ (k3\_sin\_cos2\ X0))) \tag{30}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(k4\_xcmplx\_0\ (k4\_xcmplx\_0\ X0) = X0) \tag{31}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0\ X0)\wedge(v1\_xcmplx\_0\ X1))\Rightarrow(v1\_xcmplx\_0\ (k3\_xcmplx\_0\ X0\ X1)) \tag{32}$$

Assume the following.

$$v3\_membered\ k1\_numbers \tag{33}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_xxreal\_0\ X0)\wedge(v1\_xreal\_0\ X0))\wedge((\neg v2\_xxreal\_0\ X1)\wedge(v1\_xreal\_0\ X1)))\Rightarrow(\neg v3\_xxreal\_0\ (k3\_xcmplx\_0\ X0\ X1)) \tag{34}$$

Assume the following.

$$\forall X0.((\neg v3\_xxreal\_0\ X0)\wedge(v1\_xreal\_0\ X0))\Rightarrow((v1\_xcmplx\_0\ (k4\_xcmplx\_0\ X0))\wedge(\neg v2\_xxreal\_0\ (k4\_xcmplx\_0\ X0))) \tag{35}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(v1\_xcmplx\_0\ (k4\_xcmplx\_0\ X0)) \tag{36}$$

Assume the following.

$$m1\_subset\_1\ k32\_sin\_cos\ k1\_numbers \tag{37}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(m1\_subset\_1\ (k1\_real\_1\ X0)\ k1\_numbers) \tag{38}$$

Assume the following.

$$\forall X0.k2\_sin\_cos2\ X0 = k1\_seq\_1\ k1\_sin\_cos2\ X0 \tag{39}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow((v1\_asympt\_0\ X0)\Leftrightarrow((\neg r1\_xxreal\_0\ X0\ k6\_numbers)\wedge(X0\neq np\_\_1))) \tag{40}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0\ X0)\wedge(v1\_xcmplx\_0\ X1))\Rightarrow(k3\_xcmplx\_0\ X0\ X1 = k3\_xcmplx\_0\ X1\ X0) \tag{41}$$

Assume the following.

$$\forall X0.(v3\_membered\ X0)\Rightarrow(v1\_membered\ X0) \tag{42}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(v1\_xxreal\_0\ X0) \tag{43}$$

Assume the following.

$$\forall X0.(v3\_membered\ X0) \Rightarrow (v2\_membered\ X0) \tag{44}$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0\ X0) \wedge (v2\_xxreal\_0\ X0)) \Rightarrow ((\neg v1\_xboole\_0\ X0) \wedge ((v1\_xxreal\_0\ X0) \wedge (\neg v3\_xxreal\_0\ X0))) \tag{45}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow (v1\_xreal\_0\ X0) \tag{46}$$

Assume the following.

$$\forall X0.(v3\_membered\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow (v1\_xreal\_0\ X1)) \tag{47}$$

Assume the following.

$$\forall X0.(v2\_membered\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow (v1\_xxreal\_0\ X1)) \tag{48}$$

Assume the following.

$$\forall X0.(v1\_membered\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow (v1\_xcmplx\_0\ X1)) \tag{49}$$

Theorem 1

$$\forall X0.(v1\_xcmplx\_0\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ k1\_numbers) \Rightarrow ((\neg r1\_xxreal\_0\ k6\_numbers\ X1) \Rightarrow (k1\_comptrig\ (k3\_xcmplx\_0\ X0\ X1) = k1\_comptrig\ (k4\_xcmplx\_0\ X0))))$$