t48_nat_d (TMXZfVrYJEem-fgm4RsKEFVQjggk8PAjwEMv)

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Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_2 : \iota$ be given. Let $k4\_card\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $k5\_numbers : \iota$ be given. Let $k4\_ordinal1 : \iota$ be given. Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (((r1\_xxreal\_0\ (k1\_nat\_1\ X0\ np\_\_2)\ X1) \vee (r1\_xxreal\_0\ (k2\_nat\_1\ (k1\_nat\_1\ X0\ np\_\_1)\ np\_\_1)\ X1)) \Rightarrow ((\neg r1\_xxreal\_0\ X1\ (k1\_nat\_1\ X0\ np\_\_1)) \wedge ((\neg r1\_xxreal\_0\ X1\ (k7\_nat\_d\ (k1\_nat\_1\ X0\ np\_\_1)\ np\_\_1)) \wedge ((\neg r1\_xxreal\_0\ X1\ (k7\_nat\_d\ (k1\_nat\_1\ X0\ np\_\_1)\ np\_\_2)) \wedge ((r1\_xxreal\_0\ (k1\_nat\_1\ X0\ np\_\_1)\ X1) \wedge ((\neg r1\_xxreal\_0\ X1\ (k2\_nat\_1\ (k7\_nat\_d\ X0\ np\_\_1)\ np\_\_1)) \wedge ((\neg r1\_xxreal\_0\ X1\ (k7\_nat\_d\ (k2\_nat\_1\ (k7\_nat\_d\ X0\ np\_\_1)\ np\_\_1)\ np\_\_1)) \wedge ((\neg r1\_xxreal\_0\ X1\ X0) \wedge ((\neg r1\_xxreal\_0\ X1\ (k7\_nat\_d\ X0\ np\_\_1)) \wedge ((\neg r1\_xxreal\_0\ X1\ (k7\_nat\_d\ X0\ np\_\_2)) \wedge (r1\_xxreal\_0\ X0\ X1)))))))))))) \tag{1}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow ((r1\_xxreal\_0\ (k1\_nat\_1\ X0\ np\_\_1)\ X1) \Rightarrow ((\neg r1\_xxreal\_0\ X1\ (k7\_nat\_d\ X0\ np\_\_1)) \wedge ((\neg r1\_xxreal\_0\ X1\ (k7\_nat\_d\ X0\ np\_\_2)) \wedge (r1\_xxreal\_0\ X0\ X1))))) \tag{2}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (k4\_card\_1\ X0 = k1\_nat\_1\ X0\ np\_\_1) \tag{3}$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xxreal\_0\ X1) \Rightarrow (((r1\_xxreal\_0\ X0\ X1) \wedge (r1\_xxreal\_0\ X1\ X0)) \Rightarrow (X0 = X1))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1\ X0\ X1) \tag{5}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow ((\neg r1\_xxreal\_0\ (k1\_nat\_1\ X1\ np\_\_1)\ X0) \Leftrightarrow (r1\_xxreal\_0\ X0\ X1))) \tag{6}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2. (v7\_ordinal1\ X2) \Rightarrow ((r1\_xxreal\_0\ X0\ X1) \Rightarrow (r1\_xxreal\_0\ X0\ (k2\_xcmplx\_0\ X1\ X2))))) \tag{7}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_2) \wedge (m2\_subset\_1\ np\_\_2\ k1\_numbers\ k5\_numbers)) \wedge ((m1\_subset\_1\ np\_\_2\ k5\_numbers) \wedge (m1\_subset\_1\ np\_\_2\ k1\_numbers)) \tag{8}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_1) \wedge (m2\_subset\_1\ np\_\_1\ k1\_numbers\ k5\_numbers)) \wedge ((m1\_subset\_1\ np\_\_1\ k5\_numbers) \wedge (m1\_subset\_1\ np\_\_1\ k1\_numbers)) \tag{9}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k5\_numbers) \wedge (v7\_ordinal1\ X1)) \Rightarrow (k2\_nat\_1\ X0\ X1 = k2\_xcmplx\_0\ X0\ X1) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0) \wedge (m1\_subset\_1\ X1\ k5\_numbers)) \Rightarrow (k1\_nat\_1\ X0\ X1 = k2\_xcmplx\_0\ X0\ X1) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0) \wedge (v7\_ordinal1\ X1)) \Rightarrow (v7\_ordinal1\ (k2\_xcmplx\_0\ X0\ X1)) \tag{13}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Leftrightarrow (X0 \in k4\_ordinal1) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0) \wedge (m1\_subset\_1\ X1\ k5\_numbers)) \Rightarrow (k1\_nat\_1\ X0\ X1 = k1\_nat\_1\ X1\ X0) \tag{15}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1) \Rightarrow (v7\_ordinal1\ X0) \tag{16}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (v1\_xxreal\_0\ X0) \tag{17}$$

Theorem 1

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (((r1\_xxreal\_0\ X0\ X1) \vee (r1\_xxreal\_0\ X0\ (k7\_nat\_d\ X1\ np\_\_1))) \Rightarrow ((\neg r1\_xxreal\_0\ (k1\_nat\_1\ X1\ np\_\_1)\ X0) \wedge ((r1\_xxreal\_0\ X0\ (k1\_nat\_1\ X1\ np\_\_1)) \wedge ((\neg r1\_xxreal\_0\ (k2\_nat\_1\ (k1\_nat\_1\ X1\ np\_\_1)\ np\_\_1)\ X0) \wedge ((r1\_xxreal\_0\ X0\ (k2\_nat\_1\ (k1\_nat\_1\ X1\ np\_\_1)\ np\_\_1)) \wedge ((\neg r1\_xxreal\_0\ (k1\_nat\_1\ X1\ np\_\_2)\ X0) \wedge (r1\_xxreal\_0\ X0\ (k1\_nat\_1\ X1\ np\_\_2)))))))))$$