t195_xxreal_1 (TMGQdqN-NryFhDd8bDDeR3sSZ6mnfK6WZe5V)

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Let $v1\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_xxreal\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_membered : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7\_numbers : \iota$ be given. Assume the following.

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

Assume the following.

$$\forall X0.(v1\_xxreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xxreal\_0\ X1) \Rightarrow (\forall X2.\ (v1\_xxreal\_0\ X2) \Rightarrow ((X0 \in k4\_xxreal\_1\ X1\ X2) \Leftrightarrow ((\neg r1\_xxreal\_0\ X0\ X1) \wedge (\neg r1\_xxreal\_0\ X2\ X0))))) \tag{2}$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xxreal\_0\ X1) \Rightarrow (\forall X2.\ (v1\_xxreal\_0\ X2) \Rightarrow ((X0 \in k2\_xxreal\_1\ X1\ X2) \Leftrightarrow ((r1\_xxreal\_0\ X1\ X0) \wedge (\neg r1\_xxreal\_0\ X2\ X0))))) \tag{3}$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xxreal\_0\ X1) \Rightarrow (\forall X2.\ (v1\_xxreal\_0\ X2) \Rightarrow (((r1\_xxreal\_0\ X0\ X1) \wedge (r1\_xxreal\_0\ X1\ X2)) \Rightarrow (r1\_xxreal\_0\ X0\ X2)))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0\ X0) \wedge (v1\_xxreal\_0\ X1)) \Rightarrow (r1\_xxreal\_0\ X0\ X0) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.k6\_subset\_1\ X0\ X1 = k4\_xboole\_0\ X0\ X1 \tag{6}$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0\ X0)\Rightarrow(v1\_xboole\_0\ (k4\_xxreal\_1\ X0\ X0)) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0\ X0)\wedge(v1\_xxreal\_0\ X1))\Rightarrow(v2\_membered\ (k4\_xxreal\_1\ X0\ X1)) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(v2\_membered\ X0)\Rightarrow(v2\_membered\ (k4\_xboole\_0\ X0\ X1)) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0\ X0)\wedge(v1\_xxreal\_0\ X1))\Rightarrow(v2\_membered\ (k2\_xxreal\_1\ X0\ X1)) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k4\_xboole\_0\ X0\ X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(\neg X3 \in X1))) \tag{11}$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0\ X0)\Rightarrow(\forall X1.(v1\_xxreal\_0\ X1)\Rightarrow(k4\_xxreal\_1\ X0\ X1 = ReplSep\ (toset\ (\lambda X2 : \iota.m1\_subset\_1\ X2\ k7\_numbers))\ (\lambda X2 : \iota.(\neg r1\_xxreal\_0\ X2\ X0)\wedge(\neg r1\_xxreal\_0\ X1\ X2))\ (\lambda X2 : \iota.X2))) \tag{12}$$

Assume the following.

$$\forall X0.(v1\_xxreal\_0\ X0)\Rightarrow(\forall X1.(v1\_xxreal\_0\ X1)\Rightarrow(k2\_xxreal\_1\ X0\ X1 = ReplSep\ (toset\ (\lambda X2 : \iota.m1\_subset\_1\ X2\ k7\_numbers))\ (\lambda X2 : \iota.(r1\_xxreal\_0\ X0\ X2)\wedge(\neg r1\_xxreal\_0\ X1\ X2))\ (\lambda X2 : \iota.X2))) \tag{13}$$

Assume the following.

$$\forall X0.(v2\_membered\ X0)\Rightarrow(\forall X1.(v2\_membered\ X1)\Rightarrow((X0 = X1)\Leftrightarrow(\forall X2.(v1\_xxreal\_0\ X2)\Rightarrow((X2 \in X0)\Leftrightarrow(X2 \in X1))))) \tag{14}$$

Theorem 1

$$\forall X0.(v1\_xxreal\_0\ X0)\Rightarrow(\forall X1.(v1\_xxreal\_0\ X1)\Rightarrow(\forall X2.(v1\_xxreal\_0\ X2)\Rightarrow((\neg r1\_xxreal\_0\ X1\ X0)\Rightarrow(k6\_subset\_1\ (k4\_xxreal\_1\ X2\ X1)\ (k2\_xxreal\_1\ X0\ X1) = k4\_xxreal\_1\ X2\ X0))))$$