t21_bciideal (TMT-fXLNZr962b2KsyAymxcY1qBCzLNw2Ak3)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v3\_bcialg\_1 : \iota \Rightarrow o$ be given. Let $v4\_bcialg\_1 : \iota \Rightarrow o$ be given. Let $v5\_bcialg\_1 : \iota \Rightarrow o$ be given. Let $v7\_bcialg\_1 : \iota \Rightarrow o$ be given. Let $l2\_bcialg\_1 : \iota \Rightarrow o$ be given. Let $m2\_bcialg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2\_bciideal : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $r1\_bcialg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_bcialg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k2\_bcialg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k4\_bcialg\_1 : \iota \Rightarrow \iota$ be given. Let $l1\_bcialg\_1 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_bcialg\_1\ X0) \wedge ((v4\_bcialg\_1\ X0) \wedge ((v5\_bcialg\_1\ X0) \wedge ((v7\_bcialg\_1\ X0) \wedge (l2\_bcialg\_1\ X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow ((k1\_bcialg\_1\ X0\ X1\ X2 = k4\_struct\_0\ X0) \Rightarrow (k2\_bcialg\_1\ X0\ (k1\_bcialg\_1\ X0\ X2\ X1) = k4\_struct\_0\ X0)))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2))) \Rightarrow (m1\_subset\_1\ X0\ X2) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ X1)) \Leftrightarrow (r1\_tarski\ X0\ X1) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ X1) \Rightarrow ((v1\_xboole\_0\ X1) \vee (X0 \in X1)) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_bcialg\_1\ X0) \wedge ((v4\_bcialg\_1\ X0) \wedge ((v5\_bcialg\_1\ X0) \wedge ((v7\_bcialg\_1\ X0) \wedge (l2\_bcialg\_1\ X0)))))) \Rightarrow (\forall X1.(m2\_bcialg\_1\ X1\ X0) \Rightarrow ((m2\_bciideal\ X1\ X0) \Rightarrow (r1\_tarski\ (k4\_bcialg\_1\ X0)\ X1))) \tag{5}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge(l2\_bcialg\_1\ X0)))))\Rightarrow(\forall X1.(m2\_bcialg\_1\ X1\ X0)\Rightarrow((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))) \tag{6}$$

Assume the following.

$$\forall X0.(l2\_bcialg\_1\ X0)\Rightarrow((l1\_bcialg\_1\ X0)\wedge(l2\_struct\_0\ X0)) \tag{7}$$

Assume the following.

$$\forall X0.(l2\_struct\_0\ X0)\Rightarrow(m1\_subset\_1\ (k4\_struct\_0\ X0)\ (u1\_struct\_0\ X0)) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1\_bcialg\_1\ X0)\wedge((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))))\Rightarrow(m1\_subset\_1\ (k1\_bcialg\_1\ X0\ X1\ X2)\ (u1\_struct\_0\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge(l2\_bcialg\_1\ X0)))))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow((m2\_bciideal\ X1\ X0)\Leftrightarrow((k4\_struct\_0\ X0\in X1)\wedge(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(((k1\_bcialg\_1\ X0\ (k1\_bcialg\_1\ X0\ X2\ X4)\ (k1\_bcialg\_1\ X0\ X3\ X4)\in X1)\wedge(X3\in X1))\Rightarrow(X2\in X1)))))))) \tag{10}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l2\_bcialg\_1\ X0))\Rightarrow((v3\_bcialg\_1\ X0)\Leftrightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(k1\_bcialg\_1\ X0\ (k1\_bcialg\_1\ X0\ (k1\_bcialg\_1\ X0\ X1\ X2)\ (k1\_bcialg\_1\ X0\ X3\ X2))\ (k1\_bcialg\_1\ X0\ X1\ X3)=k4\_struct\_0\ X0))))) \tag{11}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l2\_bcialg\_1\ X0))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(k2\_bcialg\_1\ X0\ X1=k1\_bcialg\_1\ X0\ (k4\_struct\_0\ X0)\ X1)) \tag{12}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge(l2\_bcialg\_1\ X0))))))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow((m2\_bcialg\_1\ X1\ X0)\Leftrightarrow((k4\_struct\_0\ X0\in X1)\wedge(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(((k1\_bcialg\_1\ X0\ X2\ X3\in X1)\wedge(X3\in X1))\Rightarrow(X2\in X1)))))))) \tag{13}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge(l2\_bcialg\_1\ X0))))))\Rightarrow(k4\_bcialg\_1\ X0 = ReplSep\ (toset\ (\lambda X1:\iota.m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)))\ (\lambda X1:\iota.r1\_bcialg\_1\ X0\ (k4\_struct\_0\ X0)\ X1)\ (\lambda X1:\iota.X1)) \tag{14}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l2\_bcialg\_1\ X0))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow((r1\_bcialg\_1\ X0\ X1\ X2)\Leftrightarrow(k1\_bcialg\_1\ X0\ X1\ X2 = k4\_struct\_0\ X0)))) \tag{15}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge(l2\_bcialg\_1\ X0))))))\Rightarrow(\forall X1.(m2\_bcialg\_1\ X1\ X0)\Rightarrow((m2\_bciideal\ X1\ X0)\Leftrightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(((X2\in X1)\wedge(r1\_bcialg\_1\ X0\ X2\ X3))\Rightarrow(X3\in X1))))))$$