# t21_cfuncdom (TMWdLSd3cMdwP4ZkXdd3veWA4hSnyHKYSuk)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_numbers : \iota$ be given. Let $k9\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_funcsdom : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_cfuncdom : \iota \Rightarrow \iota$ be given. Let $k2\_funcsdom : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_cfuncdom : \iota \Rightarrow \iota$ be given. Let $k1\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_complex1 : \iota$ be given. Let $k6\_numbers : \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.(\neg v1\_xboole\_0\ X2) \Rightarrow (\forall X3.\ (m2\_funct\_2\ X3\ X2\ k2\_numbers\ (k9\_funct\_2\ X2\ k2\_numbers)) \Rightarrow (\forall X4.\ (m2\_funct\_2\ X4\ X2\ k2\_numbers\ (k9\_funct\_2\ X2\ k2\_numbers)) \Rightarrow (((X2 = k2\_tarski\ X0\ X1) \wedge ((\forall X5.(X5 \in X2) \Rightarrow (((X5 = X0) \Rightarrow (k1\_funct\_1\ X3\ X5 = k6\_complex1)) \wedge ((X5 \neq X0) \Rightarrow (k1\_funct\_1\ X3\ X5 = k6\_numbers)))) \wedge (\forall X5.(X5 \in X2) \Rightarrow (((X5 = X0) \Rightarrow (k1\_funct\_1\ X4\ X5 = k6\_numbers)) \wedge ((X5 \neq X0) \Rightarrow (k1\_funct\_1\ X4\ X5 = k6\_complex1)))))) \Rightarrow ((X0 = X1) \vee (\forall X5.\ (m2\_funct\_2\ X5\ X2\ k2\_numbers\ (k9\_funct\_2\ X2\ k2\_numbers)) \Rightarrow (\exists X6.\ (m1\_subset\_1\ X6\ k2\_numbers) \wedge (\exists X7.(m1\_subset\_1\ X7\ k2\_numbers) \wedge (r2\_funct\_2\ X2\ k2\_numbers\ X5\ (k1\_funcsdom\ X2\ k2\_numbers\ (k1\_cfuncdom\ X2)\ (k2\_funcsdom\ X2\ k2\_numbers\ k2\_numbers\ (k9\_funct\_2\ X2\ k2\_numbers)\ (k3\_cfuncdom\ X2)\ (k1\_domain\_1\ k2\_numbers\ (k9\_funct\_2\ X2\ k2\_numbers)\ X6\ X3))\ (k2\_funcsdom\ X2\ k2\_numbers\ k2\_numbers\ (k9\_funct\_2\ X2\ k2\_numbers)\ (k3\_cfuncdom\ X2)\ (k1\_domain\_1\ k2\_numbers\ (k9\_funct\_2\ X2\ k2\_numbers)\ X7\ X4)))))))))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (\exists X2.(m2\_funct\_2\ X2\ X1\ k2\_numbers\ (k9\_funct\_2\ X1\ k2\_numbers)) \wedge (\exists X3.(m2\_funct\_2\ X3\ X1\ k2\_numbers\ (k9\_funct\_2\ X1\ k2\_numbers)) \wedge ((\forall X4.(X4 \in X1) \Rightarrow (((X4 = X0) \Rightarrow (k1\_funct\_1\ X2\ X4 = k6\_complex1)) \wedge ((X4 \neq X0) \Rightarrow (k1\_funct\_1\ X2\ X4 = k6\_numbers)))) \wedge (\forall X4.(X4 \in X1) \Rightarrow (((X4 = X0) \Rightarrow (k1\_funct\_1\ X3\ X4 = k6\_numbers)) \wedge ((X4 \neq X0) \Rightarrow (k1\_funct\_1\ X3\ X4 = k6\_complex1))))))) \tag{2}$$

**Theorem 1**

$$\forall X0.\forall X1.\forall X2.(\neg v1\_xboole\_0\ X2)\Rightarrow(\neg(X2 = k2\_tarski\ X0\ X1)\wedge((X0\neq X1)\wedge(\forall X3.(m2\_funct\_2\ X3\ X2\ k2\_numbers\ (k9\_funct\_2\ X2\ k2\_numbers))\Rightarrow(\forall X4.(m2\_funct\_2\ X4\ X2\ k2\_numbers\ (k9\_funct\_2\ X2\ k2\_numbers))\Rightarrow(\exists X5.(m2\_funct\_2\ X5\ X2\ k2\_numbers\ (k9\_funct\_2\ X2\ k2\_numbers))\wedge(\forall X6.(m1\_subset\_1\ X6\ k2\_numbers)\Rightarrow(\forall X7.(m1\_subset\_1\ X7\ k2\_numbers)\Rightarrow(\neg r2\_funct\_2\ X2\ k2\_numbers\ X5\ (k1\_funcsdom\ X2\ k2\_numbers\ (k1\_cfuncdom\ X2)\ (k2\_funcsdom\ X2\ k2\_numbers\ k2\_numbers\ (k9\_funct\_2\ X2\ k2\_numbers)\ (k3\_cfuncdom\ X2)\ (k1\_domain\_1\ k2\_numbers\ (k9\_funct\_2\ X2\ k2\_numbers)\ X6\ X3))\ (k2\_funcsdom\ X2\ k2\_numbers\ k2\_numbers\ (k9\_funct\_2\ X2\ k2\_numbers)\ (k3\_cfuncdom\ X2)\ (k1\_domain\_1\ k2\_numbers\ (k9\_funct\_2\ X2\ k2\_numbers)\ X7\ X4)))))))))))$$