t18_anproj_2 (TML7neJuwvUjHfXgn6JyVav6wFuPbogSjY6)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $k9\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k5\_funcsdom : \iota \Rightarrow \iota$ be given. Let $k2\_funcsdom : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_funcsdom : \iota \Rightarrow \iota$ be given. Let $k1\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_funcsdom : \iota \Rightarrow \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given.

Let $np\_\_1 : \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m2\_funct\_2\ X1\ X0\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)) \Rightarrow (\forall X2.(m2\_funct\_2\ X2\ X0\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)) \Rightarrow (\forall X3.(m2\_funct\_2\ X3\ X0\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)) \Rightarrow (\forall X4.(m2\_funct\_2\ X4\ X0\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)) \Rightarrow (\forall X5.(m1\_subset\_1\ X5\ X0) \Rightarrow (\forall X6.(m1\_subset\_1\ X6\ X0) \Rightarrow (\forall X7.(m1\_subset\_1\ X7\ X0) \Rightarrow (\forall X8.(m1\_subset\_1\ X8\ X0) \Rightarrow (((k3\_funct\_2\ X0\ k1\_numbers\ X1\ X5 = np\_\_1) \wedge ((\forall X9.(X9 \in X0) \Rightarrow ((X9 = X5) \vee (k1\_funct\_1\ X1\ X9 = k6\_numbers))) \wedge ((k3\_funct\_2\ X0\ k1\_numbers\ X2\ X6 = np\_\_1) \wedge ((\forall X9.(X9 \in X0) \Rightarrow ((X9 = X6) \vee (k1\_funct\_1\ X2\ X9 = k6\_numbers))) \wedge ((k3\_funct\_2\ X0\ k1\_numbers\ X3\ X7 = np\_\_1) \wedge ((\forall X9.(X9 \in X0) \Rightarrow ((X9 = X7) \vee (k1\_funct\_1\ X3\ X9 = k6\_numbers))) \wedge ((k3\_funct\_2\ X0\ k1\_numbers\ X4\ X8 = np\_\_1) \wedge (\forall X9.(X9 \in X0) \Rightarrow ((X9 = X8) \vee (k1\_funct\_1\ X4\ X9 = k6\_numbers))))))))))) \Rightarrow ((X5 = X6) \vee ((X5 = X7) \vee ((X5 = X8) \vee ((X6 = X7) \vee ((X6 = X8) \vee ((X7 = X8) \vee (\forall X9.(m1\_subset\_1\ X9\ k1\_numbers) \Rightarrow (\forall X10.(m1\_subset\_1\ X10\ k1\_numbers) \Rightarrow (\forall X11.(m1\_subset\_1\ X11\ k1\_numbers) \Rightarrow (\forall X12.(m1\_subset\_1\ X12\ k1\_numbers) \Rightarrow ((r2\_funct\_2\ X0\ k1\_numbers\ (k1\_funcsdom\ X0\ k1\_numbers\ (k5\_funcsdom\ X0)\ (k1\_funcsdom\ X0\ k1\_numbers\ (k5\_funcsdom\ X0)\ (k1\_funcsdom\ X0\ k1\_numbers\ (k5\_funcsdom\ X0)\ (k2\_funcsdom\ X0\ k1\_numbers\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)\ (k7\_funcsdom\ X0)\ (k1\_domain\_1\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)\ X9\ X1))\ (k2\_funcsdom\ X0\ k1\_numbers\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)\ (k7\_funcsdom\ X0)\ (k1\_domain\_1\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)\ X10\ X2)))\ (k2\_funcsdom\ X0\ k1\_numbers\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)\ (k7\_funcsdom\ X0)\ (k1\_domain\_1\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)\ X11\ X3)))\ (k2\_funcsdom\ X0\ k1\_numbers\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)\ (k7\_funcsdom\ X0)\ (k1\_domain\_1\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)\ X12\ X4)))\ (k8\_funcsdom\ X0)) \Rightarrow ((X9 = k6\_numbers) \wedge ((X10 = k6\_numbers) \wedge ((X11 = k6\_numbers) \wedge (X12 = k6\_numbers)))))))))))))))))))))))) \tag{1}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow (\exists X2.(m2\_funct\_2\ X2\ X0\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)) \wedge ((k3\_funct\_2\ X0\ k1\_numbers\ X2\ X1 = np\_\_1) \wedge (\forall X3.(X3 \in X0) \Rightarrow ((X3 = X1) \vee (k1\_funct\_1\ X2\ X3 = k6\_numbers))))) \tag{2}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow (\forall X2.(m1\_subset\_1\ X2\ X0)\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ X0)\Rightarrow (\forall X4.(m1\_subset\_1\ X4\ X0)\Rightarrow(\neg(X1\neq X2)\wedge((X1\neq X3)\wedge((X1\neq X4)\wedge ((X2\neq X3)\wedge((X2\neq X4)\wedge((X3\neq X4)\wedge(\forall X5.(m2\_funct\_2\ X5\ X0\ k1\_numbers (k9\_funct\_2\ X0\ k1\_numbers))\Rightarrow(\forall X6.(m2\_funct\_2\ X6\ X0\ k1\_numbers (k9\_funct\_2\ X0\ k1\_numbers))\Rightarrow(\forall X7.(m2\_funct\_2\ X7\ X0\ k1\_numbers (k9\_funct\_2\ X0\ k1\_numbers))\Rightarrow(\forall X8.(m2\_funct\_2\ X8\ X0\ k1\_numbers (k9\_funct\_2\ X0\ k1\_numbers))\Rightarrow(\exists X9.(m1\_subset\_1\ X9\ k1\_numbers)\wedge (\exists X10.(m1\_subset\_1\ X10\ k1\_numbers)\wedge(\exists X11.(m1\_subset\_1\ X11\ k1\_numbers)\wedge(\exists X12.(m1\_subset\_1\ X12\ k1\_numbers)\wedge((r2\_funct\_2\ X0\ k1\_numbers\ (k1\_funcsdom\ X0\ k1\_numbers\ (k5\_funcsdom\ X0)\ (k1\_funcsdom\ X0\ k1\_numbers\ (k5\_funcsdom\ X0)\ (k1\_funcsdom\ X0\ k1\_numbers\ (k5\_funcsdom\ X0)\ (k2\_funcsdom\ X0\ k1\_numbers\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)\ (k7\_funcsdom\ X0)\ (k1\_domain\_1\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)\ X9\ X5))\ (k2\_funcsdom\ X0\ k1\_numbers\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)\ (k7\_funcsdom\ X0)\ (k1\_domain\_1\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)\ X10\ X6)))\ (k2\_funcsdom\ X0\ k1\_numbers\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)\ (k7\_funcsdom\ X0)\ (k1\_domain\_1\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)\ X11\ X7)))\ (k2\_funcsdom\ X0\ k1\_numbers\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)\ (k7\_funcsdom\ X0)\ (k1\_domain\_1\ k1\_numbers\ (k9\_funct\_2\ X0\ k1\_numbers)\ X12\ X8)))\ (k8\_funcsdom\ X0))\wedge(\neg(X9=k6\_numbers)\wedge((X10=k6\_numbers)\wedge((X11=k6\_numbers)\wedge(X12=k6\_numbers))))))))))))))))))))))$$