t48_cqc_the3 (TMN43AgXmwf65jxyjvJSNp7JWoW8f7wkDi6)

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Let $m1\_qc\_lang1 : \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9\_qc\_lang1 : \iota \Rightarrow \iota$ be given. Let $k3\_cqc\_lang : \iota \Rightarrow \iota$ be given. Let $r6\_cqc\_the3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_cqc\_the3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r5\_cqc\_the3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np\_\_1 : \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_finseq\_1 : \iota \Rightarrow o$ be given. Let $k3\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_qc\_lang1 : \iota \Rightarrow \iota$ be given. Let $k3\_qc\_lang1 : \iota \Rightarrow \iota$ be given. Let $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (\forall X3.(m2\_subset\_1\ X3\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (((r1\_cqc\_the3\ X0\ X1\ X2) \wedge (r1\_cqc\_the3\ X0\ X2\ X3)) \Rightarrow (r1\_cqc\_the3\ X0\ X1\ X3))))) \tag{1}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (((v6\_qc\_lang1\ X1\ X0) \wedge (r1\_cqc\_the3\ X0\ (k6\_cqc\_lang\ X0\ X1)\ (k6\_cqc\_lang\ X0\ X2))) \Rightarrow (r1\_cqc\_the3\ X0\ X2\ X1)))) \tag{2}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (((v6\_qc\_lang1\ X1\ X0) \wedge (r1\_cqc\_the3\ X0\ X1\ X2)) \Rightarrow (r1\_cqc\_the3\ X0\ (k6\_cqc\_lang\ X0\ X2)\ (k6\_cqc\_lang\ X0\ X1))))) \tag{3}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow ((r6\_cqc\_the3\ X0\ X1\ X2) \Rightarrow (r5\_cqc\_the3\ X0\ X1\ X2)))) \tag{4}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow((r6\_cqc\_the3\ X0\ X1\ X2)\Leftrightarrow((v6\_qc\_lang1\ X1\ X0)\wedge(\exists X3.(m1\_subset\_1\ X3\ k5\_numbers)\wedge((r1\_xxreal\_0\ np\_\_1\ X3)\wedge(\exists X4.((v1\_relat\_1\ X4)\wedge((v1\_funct\_1\ X4)\wedge(v1\_finseq\_1\ X4)))\wedge((k3\_finseq\_1\ X4 = X3)\wedge((k1\_funct\_1\ X4\ np\_\_1 = X2)\wedge((k1\_funct\_1\ X4\ X3 = X1)\wedge(\forall X5.(m1\_subset\_1\ X5\ k5\_numbers)\Rightarrow(\neg(r1\_xxreal\_0\ np\_\_1\ X5)\wedge((\neg r1\_xxreal\_0\ X3\ X5)\wedge(\forall X6.(m2\_subset\_1\ X6\ (k2\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0))\Rightarrow(\forall X7.(m2\_subset\_1\ X7\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(\neg(X7 = k1\_funct\_1\ X4\ X5)\wedge(k1\_funct\_1\ X4\ (k2\_nat\_1\ X5\ np\_\_1) = k11\_cqc\_lang\ X0\ X6\ X7)))))))))))))))) \tag{5}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow((r5\_cqc\_the3\ X0\ X1\ X2)\Leftrightarrow((r1\_cqc\_the3\ X0\ X1\ X2)\wedge(r1\_cqc\_the3\ X0\ X2\ X1))))) \tag{6}$$

Theorem 1

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(\forall X3.(m2\_subset\_1\ X3\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(\forall X4.(m2\_subset\_1\ X4\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(((r6\_cqc\_the3\ X0\ X1\ X2)\wedge(r6\_cqc\_the3\ X0\ X3\ X4))\Rightarrow((r1\_cqc\_the3\ X0\ X2\ X4)\Leftrightarrow(r1\_cqc\_the3\ X0\ (k6\_cqc\_lang\ X0\ X3)\ (k6\_cqc\_lang\ X0\ X1)))))))))$$