t32_cqc_sim1 (TMXpydWPkEoyGj-vadW2XTndinZPaTZbjhx3)

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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 $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_qc\_lang1 : \iota \Rightarrow \iota$ be given. Let $k5\_finsub\_1 : \iota \Rightarrow \iota$ be given. Let $k3\_qc\_lang1 : \iota \Rightarrow \iota$ be given. Let $m2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15\_cqc\_sim1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k30\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_cqc\_sim1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k4\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_cqc\_sim1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13\_cqc\_sim1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_setwiseo : \iota \Rightarrow \iota$ be given. Let $k11\_cqc\_sim1 : \iota \Rightarrow \iota$ be given. Let $k6\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_qc\_lang1 : \iota \Rightarrow \iota$ be given. Let $k11\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_xtuple\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k28\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_qc\_lang3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ X0\ X1) \Leftrightarrow (m1\_subset\_1\ X2\ X1)) \tag{1}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\neg v1\_xboole\_0\ (k3\_cqc\_lang\ X0)) \tag{2}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (m1\_subset\_1\ (k3\_cqc\_lang\ X0)\ (k1\_zfmisc\_1\ (k9\_qc\_lang1\ X0))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_qc\_lang1\ X0)\wedge(m1\_subset\_1\ X1\ (k3\_cqc\_lang\ X0)))\Rightarrow(m1\_subset\_1\ (k15\_cqc\_sim1\ X0\ X1)\ (k1\_zfmisc\_1\ (k4\_zfmisc\_1\ (k3\_cqc\_lang\ X0)\ (k1\_qc\_lang1\ X0)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)))))) \tag{4}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k4\_zfmisc\_1\ (k3\_cqc\_lang\ X0)\ (k1\_qc\_lang1\ X0)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)))))\Rightarrow((X2 = k15\_cqc\_sim1\ X0\ X1)\Leftrightarrow((r1\_cqc\_sim1\ X0\ X1\ X2)\wedge(\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k4\_zfmisc\_1\ (k3\_cqc\_lang\ X0)\ (k1\_qc\_lang1\ X0)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)))))\Rightarrow((r1\_cqc\_sim1\ X0\ X1\ X3)\Rightarrow(r1\_tarski\ X2\ X3))))))) \tag{5}$$

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.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k4\_zfmisc\_1\ (k3\_cqc\_lang\ X0)\ (k1\_qc\_lang1\ X0)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)))))\Rightarrow((r1\_cqc\_sim1\ X0\ X1\ X2)\Leftrightarrow((k5\_domain\_1\ (k3\_cqc\_lang\ X0)\ (k1\_qc\_lang1\ X0)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0))\ (k1\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0))\ X1\ (k13\_cqc\_sim1\ X0\ X1)\ (k1\_setwiseo\ (k3\_qc\_lang1\ X0))\ (k11\_cqc\_sim1\ (k3\_qc\_lang1\ X0))\in X2)\wedge((\forall X3.(m2\_subset\_1\ X3\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (k1\_qc\_lang1\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0)))\Rightarrow(\forall X6.(m2\_funct\_2\ X6\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)))\Rightarrow((k5\_domain\_1\ (k3\_cqc\_lang\ X0)\ (k1\_qc\_lang1\ X0)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0))\ (k6\_cqc\_lang\ X0\ X3)\ X4\ X5\ X6\in X2)\Rightarrow(k5\_domain\_1\ (k3\_cqc\_lang\ X0)\ (k1\_qc\_lang1\ X0)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0))\ X3\ X4\ X5\ X6\in X2))))))\wedge((\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(\forall X5.(m1\_subset\_1\ X5\ (k1\_qc\_lang1\ X0))\Rightarrow(\forall X6.(m1\_subset\_1\ X6\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0)))\Rightarrow(\forall X7.(m2\_funct\_2\ X7\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)))\Rightarrow((k5\_domain\_1\ (k3\_cqc\_lang\ X0)\ (k1\_qc\_lang1\ X0)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0))\ (k7\_cqc\_lang\ X0\ X3\ X4)\ X5\ X6\ X7\in X2)\Rightarrow((k5\_domain\_1\ (k3\_cqc\_lang\ X0)\ (k1\_qc\_lang1\ X0)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0))\ X3\ X5\ X6\ X7\in X2)\wedge(k5\_domain\_1\ (k3\_cqc\_lang\ X0)\ (k1\_qc\_lang1\ X0)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0))\ X4\ (k30\_qc\_lang1\ X0\ X5\ (k7\_cqc\_sim1\ X0\ X3))\ X6\ X7\in X2)))))))\wedge(\forall X3.(m2\_subset\_1\ X3\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(\forall X4.(m2\_subset\_1\ X4\ (k2\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (k1\_qc\_lang1\ X0))\Rightarrow(\forall X6.(m1\_subset\_1\ X6\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0)))\Rightarrow(\forall X7.(m2\_funct\_2\ X7\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)))\Rightarrow((k5\_domain\_1\ (k3\_cqc\_lang\ X0)\ (k1\_qc\_lang1\ X0)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0))\ (k11\_cqc\_lang\ X0\ X4\ X3)\ X5\ X6\ X7\in X2)\Rightarrow(k6\_xtuple\_0\ X3\ (k28\_qc\_lang1\ X0\ X5)\ (k2\_xboole\_0\ X6\ (k6\_domain\_1\ (k3\_qc\_lang1\ X0)\ X4))\ (k1\_funct\_4\ X7\ (k16\_funcop\_1\ X4\ (k2\_qc\_lang3\ X0\ X5)))\in X2))))))))))))) \tag{6}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \tag{7}$$

Theorem 1

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(\forall X3.(m2\_subset\_1\ X3\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (k1\_qc\_lang1\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0)))\Rightarrow(\forall X6.(m2\_funct\_2\ X6\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)))\Rightarrow((k5\_domain\_1\ (k3\_cqc\_lang\ X0)\ (k1\_qc\_lang1\ X0)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0))\ (k7\_cqc\_lang\ X0\ X2\ X3)\ X4\ X5\ X6\in k15\_cqc\_sim1\ X0\ X1)\Rightarrow((k5\_domain\_1\ (k3\_cqc\_lang\ X0)\ (k1\_qc\_lang1\ X0)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0))\ X2\ X4\ X5\ X6\in k15\_cqc\_sim1\ X0\ X1)\wedge(k5\_domain\_1\ (k3\_cqc\_lang\ X0)\ (k1\_qc\_lang1\ X0)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0))\ X3\ (k30\_qc\_lang1\ X0\ X4\ (k7\_cqc\_sim1\ X0\ X2))\ X5\ X6\in k15\_cqc\_sim1\ X0\ X1)))))))))$$