t35_cqc_sim1 (TMVZB8B6abNeFGAWYadRHAPTw6z8WWLub8G)

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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 $k15\_cqc\_sim1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2\_qc\_lang2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k7\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_cqc\_lang : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k30\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_cqc\_sim1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k14\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15\_qc\_lang1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (k9\_qc\_lang1\ X0)) \Rightarrow (((r2\_qc\_lang2\ X0\ X1\ X2) \wedge (r2\_qc\_lang2\ X0\ X2\ X3)) \Rightarrow (r2\_qc\_lang2\ X0\ X1\ X3)))))) \tag{1}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ (k2\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)) \Rightarrow (r2\_qc\_lang2\ X0\ X1\ (k11\_cqc\_lang\ X0\ X2\ X1)))) \tag{2}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow ((r2\_qc\_lang2\ X0\ X1\ (k7\_cqc\_lang\ X0\ X1\ X2)) \wedge (r2\_qc\_lang2\ X0\ X2\ (k7\_cqc\_lang\ X0\ X1\ X2))))) \tag{3}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(r2\_qc\_lang2\ X0\ X1\ (k6\_cqc\_lang\ X0\ X1))) \tag{4}$$

Assume the following.

$$\forall X0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o.\forall X1.\forall X2.((m1\_qc\_lang1\ X2) \wedge (m2\_subset\_1\ X1\ (k9\_qc\_lang1\ X2)\ (k3\_cqc\_lang\ X2))) \Rightarrow (((X0\ X1\ (k13\_cqc\_sim1\ X2\ X1)\ (k1\_setwiseo\ (k3\_qc\_lang1\ X2))\ (k11\_cqc\_sim1\ (k3\_qc\_lang1\ X2))) \wedge ((\forall X3.(m2\_subset\_1\ X3\ (k9\_qc\_lang1\ X2)\ (k3\_cqc\_lang\ X2)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (k1\_qc\_lang1\ X2)) \Rightarrow (\forall X5.(m1\_subset\_1\ X5\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X2))) \Rightarrow (\forall X6.(m2\_funct\_2\ X6\ (k3\_qc\_lang1\ X2)\ (k3\_qc\_lang1\ X2)\ (k9\_funct\_2\ (k3\_qc\_lang1\ X2)\ (k3\_qc\_lang1\ X2))) \Rightarrow (((k5\_domain\_1\ (k3\_cqc\_lang\ X2)\ (k1\_qc\_lang1\ X2)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X2))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X2)\ (k3\_qc\_lang1\ X2))\ (k6\_cqc\_lang\ X2\ X3)\ X4\ X5\ X6 \in k15\_cqc\_sim1\ X2\ X1) \wedge (X0\ (k6\_cqc\_lang\ X2\ X3)\ X4\ X5\ X6)) \Rightarrow (X0\ X3\ X4\ X5\ X6)))))) \wedge ((\forall X3.(m2\_subset\_1\ X3\ (k9\_qc\_lang1\ X2)\ (k3\_cqc\_lang\ X2)) \Rightarrow (\forall X4.(m2\_subset\_1\ X4\ (k9\_qc\_lang1\ X2)\ (k3\_cqc\_lang\ X2)) \Rightarrow (\forall X5.(m1\_subset\_1\ X5\ (k1\_qc\_lang1\ X2)) \Rightarrow (\forall X6.(m1\_subset\_1\ X6\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X2))) \Rightarrow (\forall X7.(m2\_funct\_2\ X7\ (k3\_qc\_lang1\ X2)\ (k3\_qc\_lang1\ X2)\ (k9\_funct\_2\ (k3\_qc\_lang1\ X2)\ (k3\_qc\_lang1\ X2))) \Rightarrow (((k5\_domain\_1\ (k3\_cqc\_lang\ X2)\ (k1\_qc\_lang1\ X2)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X2))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X2)\ (k3\_qc\_lang1\ X2))\ (k7\_cqc\_lang\ X2\ X3\ X4)\ X5\ X6\ X7 \in k15\_cqc\_sim1\ X2\ X1) \wedge (X0\ (k7\_cqc\_lang\ X2\ X3\ X4)\ X5\ X6\ X7)) \Rightarrow ((X0\ X3\ X5\ X6\ X7) \wedge (X0\ X4\ (k30\_qc\_lang1\ X2\ X5\ (k7\_cqc\_sim1\ X2\ X3))\ X6\ X7)))))))) \wedge (\forall X3.(m2\_subset\_1\ X3\ (k9\_qc\_lang1\ X2)\ (k3\_cqc\_lang\ X2)) \Rightarrow (\forall X4.(m2\_subset\_1\ X4\ (k2\_qc\_lang1\ X2)\ (k3\_qc\_lang1\ X2)) \Rightarrow (\forall X5.(m1\_subset\_1\ X5\ (k1\_qc\_lang1\ X2)) \Rightarrow (\forall X6.(m1\_subset\_1\ X6\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X2))) \Rightarrow (\forall X7.(m2\_funct\_2\ X7\ (k3\_qc\_lang1\ X2)\ (k3\_qc\_lang1\ X2)\ (k9\_funct\_2\ (k3\_qc\_lang1\ X2)\ (k3\_qc\_lang1\ X2))) \Rightarrow (((k5\_domain\_1\ (k3\_cqc\_lang\ X2)\ (k1\_qc\_lang1\ X2)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X2))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X2)\ (k3\_qc\_lang1\ X2))\ (k11\_cqc\_lang\ X2\ X4\ X3)\ X5\ X6\ X7 \in k15\_cqc\_sim1\ X2\ X1) \wedge (X0\ (k11\_cqc\_lang\ X2\ X4\ X3)\ X5\ X6\ X7)) \Rightarrow (X0\ X3\ (k28\_qc\_lang1\ X2\ X5)\ (k2\_xboole\_0\ X6\ (k6\_domain\_1\ (k3\_qc\_lang1\ X2)\ X4))\ (k1\_funct\_4\ X7\ (k16\_funcop\_1\ X4\ (k2\_qc\_lang3\ X2\ X5)))))))))))) \Rightarrow (\forall X3.(m2\_subset\_1\ X3\ (k9\_qc\_lang1\ X2)\ (k3\_cqc\_lang\ X2)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (k1\_qc\_lang1\ X2)) \Rightarrow (\forall X5.(m1\_subset\_1\ X5\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X2))) \Rightarrow (\forall X6.(m2\_funct\_2\ X6\ (k3\_qc\_lang1\ X2)\ (k3\_qc\_lang1\ X2)\ (k9\_funct\_2\ (k3\_qc\_lang1\ X2)\ (k3\_qc\_lang1\ X2))) \Rightarrow ((k5\_domain\_1\ (k3\_cqc\_lang\ X2)\ (k1\_qc\_lang1\ X2)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X2))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X2)\ (k3\_qc\_lang1\ X2))\ X3\ X4\ X5\ X6 \in k15\_cqc\_sim1\ X2\ X1) \Rightarrow (X0\ X3\ X4\ X5\ X6)))))))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_qc\_lang1\ X0)\wedge((m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0))\wedge(m1\_subset\_1\ X2\ (k9\_qc\_lang1\ X0))))\Rightarrow(r2\_qc\_lang2\ X0\ X1\ X1) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ X0\ X1)\Leftrightarrow(m1\_subset\_1\ X2\ X1)) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_qc\_lang1\ X0)\wedge((m1\_subset\_1\ X1\ (k3\_cqc\_lang\ X0))\wedge(m1\_subset\_1\ X2\ (k3\_cqc\_lang\ X0))))\Rightarrow(k7\_cqc\_lang\ X0\ X1\ X2 = k14\_qc\_lang1\ X0\ X1\ X2) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_qc\_lang1\ X0)\wedge((m1\_subset\_1\ X1\ (k3\_qc\_lang1\ X0))\wedge(m1\_subset\_1\ X2\ (k3\_cqc\_lang\ X0))))\Rightarrow(k11\_cqc\_lang\ X0\ X1\ X2 = k15\_qc\_lang1\ X0\ X1\ X2) \tag{9}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\neg v1\_xboole\_0\ (k3\_qc\_lang1\ X0)) \tag{10}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\neg v1\_xboole\_0\ (k3\_cqc\_lang\ X0)) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ X0\ X1)\Rightarrow(m1\_subset\_1\ X2\ X0)) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.((m1\_qc\_lang1\ X0)\wedge(m1\_subset\_1\ X1\ (k3\_cqc\_lang\ X0)))\Rightarrow(m2\_subset\_1\ (k6\_cqc\_lang\ X0\ X1)\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0)) \tag{13}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(m1\_subset\_1\ (k3\_qc\_lang1\ X0)\ (k1\_zfmisc\_1\ (k2\_qc\_lang1\ X0))) \tag{14}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(m1\_subset\_1\ (k3\_cqc\_lang\ X0)\ (k1\_zfmisc\_1\ (k9\_qc\_lang1\ X0))) \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_qc\_lang1\ X0)\wedge((m1\_subset\_1\ X1\ (k3\_qc\_lang1\ X0))\wedge(m1\_subset\_1\ X2\ (k9\_qc\_lang1\ X0))))\Rightarrow(m1\_subset\_1\ (k15\_qc\_lang1\ X0\ X1\ X2)\ (k9\_qc\_lang1\ X0)) \tag{16}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_qc\_lang1\ X0)\wedge((m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0))\wedge(m1\_subset\_1\ X2\ (k9\_qc\_lang1\ X0))))\Rightarrow(m1\_subset\_1\ (k14\_qc\_lang1\ X0\ X1\ X2)\ (k9\_qc\_lang1\ X0)) \tag{17}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \tag{18}$$

Theorem 1

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (k1\_qc\_lang1\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0)))\Rightarrow(\forall X5.(m2\_funct\_2\ X5\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0)))\Rightarrow((k5\_domain\_1\ (k3\_cqc\_lang\ X0)\ (k1\_qc\_lang1\ X0)\ (k5\_finsub\_1\ (k3\_qc\_lang1\ X0))\ (k9\_funct\_2\ (k3\_qc\_lang1\ X0)\ (k3\_qc\_lang1\ X0))\ X2\ X3\ X4\ X5\in k15\_cqc\_sim1\ X0\ X1)\Rightarrow(r2\_qc\_lang2\ X0\ X2\ X1)))))))$$