t31_cqc_the3
(TMFeMRC2dHXZioDpka46pYrHoT1ZVt151zo)

October 27, 2020

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 $r4\_cqc\_the3 : \iota{\Rightarrow}\iota{\Rightarrow}\iota{\Rightarrow}o$ be given. Let $k7\_domain\_1 : \iota{\Rightarrow}\iota{\Rightarrow}\iota{\Rightarrow}\iota$ be given. Let $k6\_domain\_1 : \iota{\Rightarrow}\iota{\Rightarrow}\iota$ be given. Let $k7\_cqc\_lang : \iota{\Rightarrow}\iota{\Rightarrow}\iota{\Rightarrow}\iota$ be given. Let $r3\_cqc\_the1 : \iota{\Rightarrow}\iota{\Rightarrow}\iota{\Rightarrow}o$ be given. Let $v1\_xboole\_0 : \iota{\Rightarrow}o$ be given. Let $m1\_subset\_1 : \iota{\Rightarrow}\iota{\Rightarrow}o$ be given. Let $k1\_zfmisc\_1 : \iota{\Rightarrow}\iota$ be given. Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0){\Rightarrow}(\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1$$
$$X0)\ (k3\_cqc\_lang\ X0)){\Rightarrow}(\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1$$
$$X0)\ (k3\_cqc\_lang\ X0)){\Rightarrow}(\forall X3.(m2\_subset\_1\ X3\ (k9\_qc\_lang1$$
$$X0)\ (k3\_cqc\_lang\ X0)){\Rightarrow}((r3\_cqc\_the1\ X0\ (k7\_domain\_1\ (k3\_cqc\_lang$$
$$X0)\ X1\ X2)\ X3){\Leftrightarrow}(r3\_cqc\_the1\ X0\ (k6\_domain\_1\ (k3\_cqc\_lang\ X0)\ (k7\_cqc\_lang$$
$$X0\ X1\ X2))\ X3))))))$$
$$(1)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge$$
$$(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)))){\Rightarrow}(\forall X2.(m2\_subset\_1$$
$$X2\ X0\ X1){\Leftrightarrow}(m1\_subset\_1\ X2\ X1))$$
$$(2)$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0){\Rightarrow}(\neg v1\_xboole\_0\ (k3\_cqc\_lang\ X0))$$
$$(3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0)\wedge((m1\_subset\_1$$
$$X1\ X0)\wedge(m1\_subset\_1\ X2\ X0))){\Rightarrow}(m1\_subset\_1\ (k7\_domain\_1\ X0\ X1\ X2)$$
$$(k1\_zfmisc\_1\ X0))$$
$$(4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_qc\_lang1\ X0)\wedge((m1\_subset\_1$$
$$X1\ (k3\_cqc\_lang\ X0))\wedge(m1\_subset\_1\ X2\ (k3\_cqc\_lang\ X0)))){\Rightarrow}(m2\_subset\_1$$
$$(k7\_cqc\_lang\ X0\ X1\ X2)\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))$$
$$(5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge(m1\_subset\_1\ X1\ X0))\Rightarrow \\ (m1\_subset\_1\ (k6\_domain\_1\ X0\ X1)\ (k1\_zfmisc\_1\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(m1\_subset\_1\ (k3\_cqc\_lang\ X0)\ (k1\_zfmisc\_1 \\ (k9\_qc\_lang1\ X0))) \tag{7}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\ (k3\_cqc\_lang\ X0)))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1 \\ (k3\_cqc\_lang\ X0)))\Rightarrow((r4\_cqc\_the3\ X0\ X1\ X2)\Leftrightarrow(\forall X3.(m2\_subset\_1 \\ X3\ (k9\_qc\_lang1\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow((r3\_cqc\_the1\ X0\ X1\ X3)\Leftrightarrow \\ (r3\_cqc\_the1\ X0\ X2\ X3)))))) \tag{8}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \tag{9}$$

Theorem 1

$$\forall X0.(m1\_qc\_lang1\ X0)\Rightarrow(\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1 \\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1 \\ X0)\ (k3\_cqc\_lang\ X0))\Rightarrow(r4\_cqc\_the3\ X0\ (k7\_domain\_1\ (k3\_cqc\_lang \\ X0)\ X1\ X2)\ (k6\_domain\_1\ (k3\_cqc\_lang\ X0)\ (k7\_cqc\_lang\ X0\ X1\ X2)))))$$