t46_cqc_the3
(TMMp6kYgKqEYA4oBmBRYkTbe6Ho9z9TZbvh)

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 $m1\_subset\_1 : \iota{\Rightarrow}\iota{\Rightarrow}o$ be given. Let $k1\_zfmisc\_1 : \iota{\Rightarrow}\iota$ be given. Let $v6\_qc\_lang1 : \iota{\Rightarrow}\iota{\Rightarrow}o$ be given. Let $r3\_cqc\_the1 : \iota{\Rightarrow}\iota{\Rightarrow}\iota{\Rightarrow}o$ be given. Let $k4\_subset\_1 : \iota{\Rightarrow}\iota{\Rightarrow}\iota{\Rightarrow}\iota$ be given. Let $k6\_domain\_1 : \iota{\Rightarrow}\iota{\Rightarrow}\iota$ be given. Let $k6\_cqc\_lang : \iota{\Rightarrow}\iota{\Rightarrow}\iota$ be given. Let $k8\_cqc\_lang : \iota{\Rightarrow}\iota{\Rightarrow}\iota{\Rightarrow}\iota$ be given. Let $k13\_cqc\_sim1 : \iota{\Rightarrow}\iota{\Rightarrow}\iota$ be given. Let $k26\_qc\_lang1 : \iota{\Rightarrow}\iota$ be given. Let $v1\_xboole\_0 : \iota{\Rightarrow}o$ be given. Assume the following.

$$
\begin{aligned}
&\forall X0.(m1\_qc\_lang1\ X0){\Rightarrow}(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\
&(k3\_cqc\_lang\ X0)))){\Rightarrow}(\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1 \\
&X0)\ (k3\_cqc\_lang\ X0))){\Rightarrow}(\forall X3.(m2\_subset\_1\ X3\ (k9\_qc\_lang1 \\
&X0)\ (k3\_cqc\_lang\ X0)){\Rightarrow}(((v6\_qc\_lang1\ X2\ X0){\wedge}(r3\_cqc\_the1\ X0\ (\\
&k4\_subset\_1\ (k3\_cqc\_lang\ X0)\ X1\ (k6\_domain\_1\ (k3\_cqc\_lang\ X0) \\
&X2))\ X3)){\Rightarrow}(r3\_cqc\_the1\ X0\ X1\ (k8\_cqc\_lang\ X0\ X2\ X3))))))
\end{aligned} \tag{1}
$$

Assume the following.

$$
\begin{aligned}
&\forall X0.(m1\_qc\_lang1\ X0){\Rightarrow}(\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1 \\
&X0)\ (k3\_cqc\_lang\ X0)){\Rightarrow}(\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1 \\
&X0)\ (k3\_cqc\_lang\ X0)){\Rightarrow}(\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1 \\
&(k3\_cqc\_lang\ X0)))){\Rightarrow}((r3\_cqc\_the1\ X0\ X3\ (k8\_cqc\_lang\ X0\ (k6\_cqc\_lang \\
&X0\ X1)\ (k6\_cqc\_lang\ X0\ X2)))){\Leftrightarrow}(r3\_cqc\_the1\ X0\ X3\ (k8\_cqc\_lang\ X0 \\
&X2\ X1))))))
\end{aligned} \tag{2}
$$

Assume the following.

$$
\begin{aligned}
&\forall X0.(m1\_qc\_lang1\ X0){\Rightarrow}(\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1 \\
&X0)\ (k3\_cqc\_lang\ X0)){\Rightarrow}(\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1 \\
&X0)\ (k3\_cqc\_lang\ X0)){\Rightarrow}(\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1 \\
&(k3\_cqc\_lang\ X0)))){\Rightarrow}((r3\_cqc\_the1\ X0\ X3\ (k8\_cqc\_lang\ X0\ X1\ X2)){\Rightarrow} \\
&(r3\_cqc\_the1\ X0\ (k4\_subset\_1\ (k3\_cqc\_lang\ X0)\ X3\ (k6\_domain\_1 \\
&(k3\_cqc\_lang\ X0)\ X1))\ X2)))))
\end{aligned} \tag{3}
$$

1

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1$$
$$X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (k13\_cqc\_sim1\ X0\ (k6\_cqc\_lang\ X0\ X1) = k13\_cqc\_sim1$$
$$X0\ X1))$$

$$(4)$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1$$
$$X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow ((k13\_cqc\_sim1\ X0\ X1 = k26\_qc\_lang1\ X0) \Leftrightarrow$$
$$(v6\_qc\_lang1\ X1\ X0)))$$

$$(5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge$$
$$(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \qquad (6)$$
$$X2\ X0\ X1) \Leftrightarrow (m1\_subset\_1\ X2\ X1))$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\neg v1\_xboole\_0\ (k3\_cqc\_lang\ X0)) \qquad (7)$$

Assume the following.

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

$$(8)$$

Assume the following.

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

$$(9)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1$$
$$X0)) \Rightarrow (v1\_xboole\_0\ X1)) \qquad (10)$$

Theorem 1

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m2\_subset\_1\ X1\ (k9\_qc\_lang1$$
$$X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ (k9\_qc\_lang1$$
$$X0)\ (k3\_cqc\_lang\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1$$
$$(k3\_cqc\_lang\ X0))) \Rightarrow (((v6\_qc\_lang1\ X1\ X0) \wedge (r3\_cqc\_the1\ X0\ (k4\_subset\_1$$
$$(k3\_cqc\_lang\ X0)\ X3\ (k6\_domain\_1\ (k3\_cqc\_lang\ X0)\ (k6\_cqc\_lang$$
$$X0\ X1)))\ (k6\_cqc\_lang\ X0\ X2))) \Rightarrow (r3\_cqc\_the1\ X0\ (k4\_subset\_1\ (k3\_cqc\_lang$$
$$X0)\ X3\ (k6\_domain\_1\ (k3\_cqc\_lang\ X0)\ X2))\ X1)))))$$