t13_metric_1 (TMZuvyQsqoPrhJbdVV3iAazFBZ8tXShiXVx)

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Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $l1\_metric\_1 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k11\_metric\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $k2\_metric\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\neg(X0 \in X1) \wedge (v1\_xboole\_0\ X1) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1\_metric\_1\ X0) \wedge ((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \wedge (v1\_xreal\_0\ X2))) \Rightarrow (m1\_subset\_1\ (k11\_metric\_1\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \tag{2}$$

Assume the following.

$$\forall X0.(l1\_metric\_1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(v1\_xreal\_0\ X2) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (((\neg v2\_struct\_0\ X0) \Rightarrow ((X3 = k11\_metric\_1\ X0\ X1\ X2) \Leftrightarrow (X3 = ReplSep\ (toset\ (\lambda X4 : \iota.m1\_subset\_1\ X4\ (u1\_struct\_0\ X0)))\ (\lambda X4 : \iota.k2\_metric\_1\ X0\ X1\ X4 = X2)\ (\lambda X4 : \iota.X4)))) \wedge ((v2\_struct\_0\ X0) \Rightarrow ((X3 = k11\_metric\_1\ X0\ X1\ X2) \Leftrightarrow (v1\_xboole\_0\ X3))))))) \tag{3}$$

Theorem 1

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (\forall X1.(l1\_metric\_1\ X1) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X1)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X1)) \Rightarrow ((X3 \in k11\_metric\_1\ X1\ X2\ X0) \Leftrightarrow ((\neg v2\_struct\_0\ X1) \wedge (k2\_metric\_1\ X1\ X2\ X3 = X0))))))$$