t19_metric_1 (TMMzRLikZSSEN-paKP7HTZdrpsaGDAnxPBUd)

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Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ 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 $k2\_metric\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2))) \Rightarrow (m1\_subset\_1\ X0\ X2) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(\forall X2.(X2 \in X0) \Leftrightarrow (X2 \in X1)) \Rightarrow (X0 = X1) \tag{2}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (\forall X1.(l1\_metric\_1\ X1) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X1)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X1)) \Rightarrow ((X3 \in k11\_metric\_1\ X1\ X2\ X0) \Leftrightarrow ((\neg v2\_struct\_0\ X1) \wedge (k2\_metric\_1\ X1\ X2\ X3 = X0))))))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1\_metric\_1\ X0) \wedge ((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \wedge (v1\_xreal\_0\ X2))) \Rightarrow (m1\_subset\_1\ (k11\_metric\_1\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \tag{4}$$

Theorem 1

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge (l1\_metric\_1\ X1)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X1)) \Rightarrow (k11\_metric\_1\ X1\ X2\ X0 = ReplSep\ (toset\ (\lambda X3 : \iota.m1\_subset\_1\ X3\ (u1\_struct\_0\ X1)))\ (\lambda X3 : \iota.k2\_metric\_1\ X1\ X2\ X3 = X0)\ (\lambda X3 : \iota.X3))))$$