

t25_weierstr (TMWUYX- HzKU98JcbZpiRQtvm8WPepN4GU94H)

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Let $v2_struct.0 : \iota \Rightarrow o$ be given. Let $v6_metric.1 : \iota \Rightarrow o$ be given. Let $v7_metric.1 : \iota \Rightarrow o$ be given. Let $v8_metric.1 : \iota \Rightarrow o$ be given. Let $v9_metric.1 : \iota \Rightarrow o$ be given. Let $l1_metric.1 : \iota \Rightarrow o$ be given. Let $m1_subset.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc.1 : \iota \Rightarrow \iota$ be given. Let $u1_struct.0 : \iota \Rightarrow \iota$ be given. Let $k3_pcomps.1 : \iota \Rightarrow \iota$ be given. Let $k1_xboole.0 : \iota$ be given. Let $v2_compts.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_topmetr : \iota$ be given. Let $k5_weierstr : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_weierstr : \iota \Rightarrow \iota$ be given. Let $k7_relset.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_funct.1 : \iota \Rightarrow o$ be given. Let $v1_funct.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct.0 X0) \wedge ((v6_metric.1 X0) \wedge ((v7_metric.1 \\ & X0) \wedge ((v8_metric.1 X0) \wedge ((v9_metric.1 X0) \wedge (l1_metric.1 X0)))))) \Rightarrow \\ & (\forall X1.(m1_subset.1 X1 (k1_zfmisc.1 (u1_struct.0 (k3_pcomps.1 \\ & X0)))) \Rightarrow ((v2_compts.1 X1 (k3_pcomps.1 X0)) \Rightarrow ((X1 = k1_xboole.0) \vee \\ & (v5_pre_topc (k5_weierstr X0 X1) (k3_pcomps.1 X0) k3_topmetr)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct.0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1.((v1_funct.1 X1) \wedge ((v1_funct.2 X1 (u1_struct.0 \\ & X0) (u1_struct.0 k3_topmetr)) \wedge (m1_subset.1 X1 (k1_zfmisc.1 (\\ & k2_zfmisc.1 (u1_struct.0 X0) (u1_struct.0 k3_topmetr)))))) \Rightarrow \\ & (\forall X2.(m1_subset.1 X2 (k1_zfmisc.1 (u1_struct.0 X0))) \Rightarrow \\ & (\neg (X2 \neq k1_xboole.0) \wedge ((v2_compts.1 X2 X0) \wedge ((v5_pre_topc X1 X0 \\ & k3_topmetr) \wedge (\forall X3.(m1_subset.1 X3 (u1_struct.0 X0)) \Rightarrow (\\ & \neg (X3 \in X2) \wedge (k3_funct.2 (u1_struct.0 X0) (u1_struct.0 k3_topmetr) \\ & X1 X3 = k2_weierstr (k7_relset.1 (u1_struct.0 X0) (u1_struct.0 \\ & k3_topmetr) X1 X2)))))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.((\neg v2_struct.0 X0) \wedge (l1_metric.1 X0)) \Rightarrow (\neg v2_struct.0 (k3_pcomps.1 X0)) \quad (3)$$

Assume the following.

$$\forall X0.(l1_metric_1 X0) \Rightarrow ((v1_pre_topc (k3_pcomps_1 X0)) \wedge (v2_pre_topc (k3_pcomps_1 X0))) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge \\ & ((v7_metric_1 X0) \wedge (v8_metric_1 X0) \wedge (v9_metric_1 X0) \wedge (l1_metric_1 \\ & X0)))))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 (k3_pcomps_1 \\ & X0)))) \Rightarrow ((v1_funct_1 (k5_weierstr X0 X1)) \wedge ((v1_funct_2 (k5_weierstr \\ & X0 X1) (u1_struct_0 (k3_pcomps_1 X0)) (u1_struct_0 k3_topmetr)) \wedge \\ & (m1_subset_1 (k5_weierstr X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ & (k3_pcomps_1 X0)) (u1_struct_0 k3_topmetr)))))) \quad (5) \end{aligned}$$

Assume the following.

$$\forall X0.(l1_metric_1 X0) \Rightarrow (l1_pre_topc (k3_pcomps_1 X0)) \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v6_metric_1 X0) \wedge ((v7_metric_1 \\ & X0) \wedge ((v8_metric_1 X0) \wedge ((v9_metric_1 X0) \wedge (l1_metric_1 X0)))))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 (k3_pcomps_1 \\ & X0)))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\ & (k3_pcomps_1 X0)))) \Rightarrow (\neg (X1 \neq k1_xboole_0) \wedge ((v2_compts_1 X1 (k3_pcomps_1 \\ & X0)) \wedge ((X2 \neq k1_xboole_0) \wedge ((v2_compts_1 X2 (k3_pcomps_1 X0)) \wedge \\ & (\forall X3.(m1_subset_1 X3 (u1_struct_0 (k3_pcomps_1 X0)))) \Rightarrow \\ & (\neg (X3 \in X2) \wedge (k3_funct_2 (u1_struct_0 (k3_pcomps_1 X0)) (u1_struct_0 \\ & k3_topmetr) (k5_weierstr X0 X1) X3 = k2_weierstr (k7_relset_1 (\\ & u1_struct_0 (k3_pcomps_1 X0)) (u1_struct_0 k3_topmetr) (k5_weierstr \\ & X0 X1) X2)))))))))) \end{aligned}$$