ROCKY MOUNTAIN
JOURNAL OF MATHEMATICS
Volume 28, Number 4, Winter 1998

ERRATA

CORRECTION TO "SOME GENERALIZATIONS OF UNIVERSAL MAPPINGS"

By M.M. MARSH

Volume 27, Number 4, Fall 1997

1. Theorem 4 on page 1190 and Theorem 6 on page 1191 are both false. The simple example below illustrates this fact for both theorems.

Counterexample.

Let X be the real number interval $[0, 3\pi]$, $Y = S^1$, and K be the real number interval $[0, 2\pi]$. Define $f : X \to Y$ by $f(x) = e^{ix}$, and $g : K \to X$ by $g(x) = x + \pi$. Note for Theorem 6 that f is inessential; and for Theorem 4 that f is a composition of two mappings, the first of which is semi-universal on X. However, f is not semi-universal; for if there is some $x \in K$ such that $f(x) = f(g(x))$, then we get that $e^{ix} = e^{i(x+\pi)} = -e^{ix}$, a contradiction.

Theorem 6 should be replaced with the following theorem and proof.

Theorem 6′. *If $f : X \to S^1$ is inessential, then f is weakly universal.*

Proof. Let $g : X \to X$ be a mapping. Since f is inessential, there is a mapping $\psi : X \to E^1$ such that $f(x) = e^{i\psi(x)}$ for each $x \in X$. Now, $\psi(X)$ is either an arc or a point. So, $\psi : X \to \psi(X)$ is universal. Hence, there is an $x \in X$ such that $\psi(x) = \psi g(x)$. Therefore, $f(x) = e^{i\psi(x)} = e^{i\psi g(x)} = f(g(x))$.

Received by the editors on July 28, 1998.