## 1044-54-234 Lex G Oversteegen\* (overstee@math.uab.edu), UAB mathematics, Birmingham, AL 35294, and Alexander M Blokh. Fixed points in non-invariant plane continua.

If  $f : [a, b] \to \mathbb{R}$ , with a < b, is continuous and such that  $f(a) \ge a$  and  $f(b) \le b$ , then f has a fixed point in I. Suppose that  $f : \mathbb{C} \to \mathbb{C}$  is map and X is a continuum. We extend the above for positively oriented maps  $f : X \to \mathbb{C}$  with the continuum X not necessarily invariant. Then we show that in certain cases a holomorphic map  $f : \mathbb{C} \to \mathbb{C}$  must have a fixed point a in a continuum X so that either  $a \in \text{Int}(X)$  or f exhibits rotation at a. (Received September 02, 2008)