

**Question**

Check the Henon map is invertible when  $b \neq 0$ ; find a formula for its inverse.

**Answer**

If  $X = a - x^2 + by$ ,  $Y = x$  then  $x = Y$  and  $y = b^{-1}(X - a + Y^2)$ : so the inverse map to  $f$  is  $(X, Y) \mapsto (Y, b^{-1}(X - a + Y^2))$ .