

EX.1.3.8, Sauer3

Let $f(x) = x^n - ax^{n-1}$, and set $g(x) = x^n$. (a) Use the Sensitivity Formula to give a prediction for the nonzero root of $f_\varepsilon(x) = (1 + \varepsilon)x^n - ax^{n-1}$ for small ε . (b) Find the nonzero root and compare with the prediction.