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EX.1.4.3, Sauer3

Use Theorem 1.11 or 1.12 to estimate the error e_{i+1} in terms of the previous error e_i as Newton's Method converges to the given roots. Is the convergence linear or quadratic?

a.
$$x^5 - 2x^4 + 2x^2 - x = 0$$
, $r = -1$, $r = 0$, $r = 1$;

b.
$$2x^4 - 5x^3 + 3x^2 + x - 1 = 0$$
, $r = -\frac{1}{2}$, $r = 1$.