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EX.1.2.7, Sauer3

Use Theorem 1.6 to determine whether Fixed-Point Iteration of g(x) is locally convergent to the given fixed point r. (a) $g(x)=(2x-1)^{\frac{1}{3}}, \quad r=1$, (b) $g(x)=\frac{1}{2}\left(x^3+1\right), \quad r=1$, (c) $g(x)=\sin x+x, \quad r=0$.