

### 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)  $g(x) = (2x - 1)^{\frac{1}{3}}$ ,  $r = 1$ , (b)  $g(x) = \frac{1}{2}(x^3 + 1)$ ,  $r = 1$ , (c)  $g(x) = \sin x + x$ ,  $r = 0$ .