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>> fixed_point_iteration
Fixed Point Iteration
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Q1a:
    g(x) = (2x+2)^(1/3) = x
    n = 14
    xc = 1.7692923543
Q1b:
    g(x) = ln(7-x) = x
    n = 14
    xc = 1.6728216987
Q1c:
    g(x) = ln(4-sin(x)) = x
    n = 10
    xc = 1.1299804987
Q3a:
    g(x) = (x + 3 / x) / 2
    x0 = 2
    n = 5
    xc = 1.7320508076
Q3b:
    g(x) = (x + 5 / x) / 2
    x0 = 2
    n = 4
    xc = 2.2360679775
Q5:
    g(x) = cos^2(x)
    n = 325
    xc = 0.6417141321

    d/dx g(x) = -2*cos(x)*sin(x)
    |d/dx g(xc)| = 0.9589931641
    Therefore g(x) is locally convergent to xc.
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