PROBLEMS 8(a, b, c) - OUTPUT


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>> rootFind
BISECTION
n = 1    xn (approximation) = 2.500000000000000e+00    f(xn) (residual) = 1.250000000000000e+00    |p-xn| (error) = 2.639320225002102e-01
n = 2    xn (approximation) = 2.250000000000000e+00    f(xn) (residual) = 6.250000000000000e-02    |p-xn| (error) = 1.393202250021020e-02
n = 3    xn (approximation) = 2.125000000000000e+00    f(xn) (residual) = -4.843750000000000e-01    |p-xn| (error) = 1.110679774997898e-01
n = 4    xn (approximation) = 2.187500000000000e+00    f(xn) (residual) = -2.148437500000000e-01    |p-xn| (error) = 4.856797749978981e-02
n = 5    xn (approximation) = 2.218750000000000e+00    f(xn) (residual) = -7.714843750000000e-02    |p-xn| (error) = 1.731797749978981e-02
n = 6    xn (approximation) = 2.234375000000000e+00    f(xn) (residual) = -7.568359375000000e-03    |p-xn| (error) = 1.692977499789805e-03
n = 7    xn (approximation) = 2.242187500000000e+00    f(xn) (residual) = 2.740478515625000e-02    |p-xn| (error) = 6.119522500210195e-03
n = 8    xn (approximation) = 2.238281250000000e+00    f(xn) (residual) = 9.902954101562500e-03    |p-xn| (error) = 2.213272500210195e-03
n = 9    xn (approximation) = 2.236328125000000e+00    f(xn) (residual) = 1.163482666015625e-03    |p-xn| (error) = 2.601475002101950e-04
n = 10    xn (approximation) = 2.235351562500000e+00    f(xn) (residual) = -3.203392028808594e-03    |p-xn| (error) = 7.164149997898051e-04
FIXED POINT, G1
n = 1    xn (approximation) = 2.000000000000000e+00    f(xn) (residual) = -1.000000000000000e+00    |p-xn| (error) = 2.360679774997898e-01
n = 2    xn (approximation) = 2.500000000000000e+00    f(xn) (residual) = 1.250000000000000e+00    |p-xn| (error) = 2.639320225002102e-01
n = 3    xn (approximation) = 2.000000000000000e+00    f(xn) (residual) = -1.000000000000000e+00    |p-xn| (error) = 2.360679774997898e-01
n = 4    xn (approximation) = 2.500000000000000e+00    f(xn) (residual) = 1.250000000000000e+00    |p-xn| (error) = 2.639320225002102e-01
n = 5    xn (approximation) = 2.000000000000000e+00    f(xn) (residual) = -1.000000000000000e+00    |p-xn| (error) = 2.360679774997898e-01
n = 6    xn (approximation) = 2.500000000000000e+00    f(xn) (residual) = 1.250000000000000e+00    |p-xn| (error) = 2.639320225002102e-01
n = 7    xn (approximation) = 2.000000000000000e+00    f(xn) (residual) = -1.000000000000000e+00    |p-xn| (error) = 2.360679774997898e-01
n = 8    xn (approximation) = 2.500000000000000e+00    f(xn) (residual) = 1.250000000000000e+00    |p-xn| (error) = 2.639320225002102e-01
n = 9    xn (approximation) = 2.000000000000000e+00    f(xn) (residual) = -1.000000000000000e+00    |p-xn| (error) = 2.360679774997898e-01
n = 10    xn (approximation) = 2.500000000000000e+00    f(xn) (residual) = 1.250000000000000e+00    |p-xn| (error) = 2.639320225002102e-01
FIXED POINT, G2
n = 1    xn (approximation) = 2.083333333333334e+00    f(xn) (residual) = -6.597222222222214e-01    |p-xn| (error) = 1.527346441664563e-01
n = 2    xn (approximation) = 2.303240740740741e+00    f(xn) (residual) = 3.049179098079549e-01    |p-xn| (error) = 6.717276324095067e-02
n = 3    xn (approximation) = 2.201601437471422e+00    f(xn) (residual) = -1.529511105237669e-01    |p-xn| (error) = 3.446654002836747e-02
n = 4    xn (approximation) = 2.252585140979345e+00    f(xn) (residual) = 7.413981736093334e-02    |p-xn| (error) = 1.651716347955468e-02
n = 5    xn (approximation) = 2.227871868525700e+00    f(xn) (residual) = -3.658693743180486e-02    |p-xn| (error) = 8.196108974089622e-03
n = 6    xn (approximation) = 2.240067514336302e+00    f(xn) (residual) = 1.790246878481749e-02    |p-xn| (error) = 3.999536836511997e-03
n = 7    xn (approximation) = 2.234100024741363e+00    f(xn) (residual) = -8.797079450643786e-03    |p-xn| (error) = 1.967952758427316e-03
n = 8    xn (approximation) = 2.237032384558244e+00    f(xn) (residual) = 4.313889562341799e-03    |p-xn| (error) = 9.644070584537978e-04
n = 9    xn (approximation) = 2.235594421370796e+00    f(xn) (residual) = -2.117583135774481e-03    |p-xn| (error) = 4.735561289934687e-04
n = 10    xn (approximation) = 2.236300282416055e+00    f(xn) (residual) = 1.038953134124832e-03    |p-xn| (error) = 2.323049162646917e-04
NEWTONS METHOD
n = 1    xn (approximation) = 2.250000000000000e+00    f(xn) (residual) = 6.250000000000000e-02    |p-xn| (error) = 1.393202250021020e-02
n = 2    xn (approximation) = 2.236111111111111e+00    f(xn) (residual) = 1.929012345680548e-04    |p-xn| (error) = 4.313361132135540e-05
n = 3    xn (approximation) = 2.236067977915804e+00    f(xn) (residual) = 1.860473552994790e-09    |p-xn| (error) = 4.160143340925515e-10
n = 4    xn (approximation) = 2.236067977499790e+00    f(xn) (residual) = 8.881784197001252e-16    |p-xn| (error) = 0.000000000000000e+00
n = 5    xn (approximation) = 2.236067977499790e+00    f(xn) (residual) = 8.881784197001252e-16    |p-xn| (error) = 0.000000000000000e+00
n = 6    xn (approximation) = 2.236067977499790e+00    f(xn) (residual) = 8.881784197001252e-16    |p-xn| (error) = 0.000000000000000e+00
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n = 7    xn (approximation) = 2.236067977499790e+00    f(xn) (residual) = 8.881784197001252e-16    |p-xn| (error) = 0.000000000000000e+00
n = 8    xn (approximation) = 2.236067977499790e+00    f(xn) (residual) = 8.881784197001252e-16    |p-xn| (error) = 0.000000000000000e+00
n = 9    xn (approximation) = 2.236067977499790e+00    f(xn) (residual) = 8.881784197001252e-16    |p-xn| (error) = 0.000000000000000e+00
n = 10    xn (approximation) = 2.236067977499790e+00    f(xn) (residual) = 8.881784197001252e-16    |p-xn| (error) = 0.000000000000000e+00
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