

1>(NEWTON METHOD with accuracy 0.00001)

a>The root of the ' $f(x) = \exp(x) + 2^{(-x)} + 2*\cos(x) - 6$ ' in $[1,2]$ = 1.829383601933849e+00

b>The root of the ' $f(x) = 2*x*\cos(2*x) - (x-2)^2$ ' in $[2,3]$ = 2.370686917662268e+00
The root of the ' $f(x) = 2*x*\cos(2*x) - (x-2)^2$ ' in $[3,4]$ = 3.722112773101788e+00

c>The root of the ' $f(x) = \exp(x) - 3*x^2$ ' in $[0,1]$ = -4.589622675369486e-01
The root of the ' $f(x) = \exp(x) - 3*x^2$ ' in $[3,5]$ = 3.733079028632816e+00

d>The root of the ' $f(x) = \sin(x) - \exp(-x)$ ' in $[0,1]$ = 5.885327439818611e-01
The root of the ' $f(x) = \sin(x) - \exp(-x)$ ' in $[6,7]$ = 6.285049273382587e+00

2> (NEWTON METHOD with accuracy 0.00001)

The root of the ' $f(x) = 1/2 + 1/4*x^2 - x*\sin(x) - 1/2*\cos(2*x)$ ' with $x_0 = \pi/2$ =
1.895493535705460e+00

3>(NEWTON METHOD with accuracy 0.000001)

The root of the ' $f(x) = 230*x^4 + 18*x^3 + 9*x^2 - 221*x - 9$ ' in $[-1,0]$ =
-4.065928831575887e-02

The root of the ' $f(x) = 230*x^4 + 18*x^3 + 9*x^2 - 221*x - 9$ ' in $[0,1]$ =
9.623984187505414e-01

Algebraically roots are found to be same.

4>(NEWTON METHOD with accuracy 0.0000000000000001)

The root of the ' $f(x) = 2^{(x*x)} - 3^{(7^{(x+1)})}$ ' is -1.118747530398896e+00

5> SECANT METHOD with $x_0=3$ $x_1=2$

The root of the ' $f(x) = x^2 - 6$ ' is 2.449489742783178e+00

The value of $\sqrt{6}$ = 2.449489743

yes it closer to $\sqrt{6}$

6> SECANT METHOD

a> The root of the ' $f(x) = \exp(x) + 2^{(-x)} + 2*\cos(x) - 6$ ' in $[1,2]$ = 1.829383601933849e+00

b> The root of the ' $f(x) = \exp(x) - 3*x^{(2)}$ ' in $[0,1]$ = 9.100075724887090e-01
The root of the ' $f(x) = \exp(x) - 3*x^{(2)}$ ' in $[3,5]$ = 3.733079028632814e+00

c> The root of the ' $f(x) = \sin(x) - \exp(-x)$ ' in $[0,1]$ = 5.885327439818611e-01
The root of the ' $f(x) = \sin(x) - \exp(-x)$ ' in $[6,7]$ = 6.285049273382587e+00

7>FIXED POINT ITERATION

a>The root of the equation ' $f(x) = \exp(-x) - 3 \cdot x$ ' is 2.576276530497367e-01
b>The root of the equation ' is 1.379364594222031e+00
c>The root of the equation is -1.303033909706930e+00