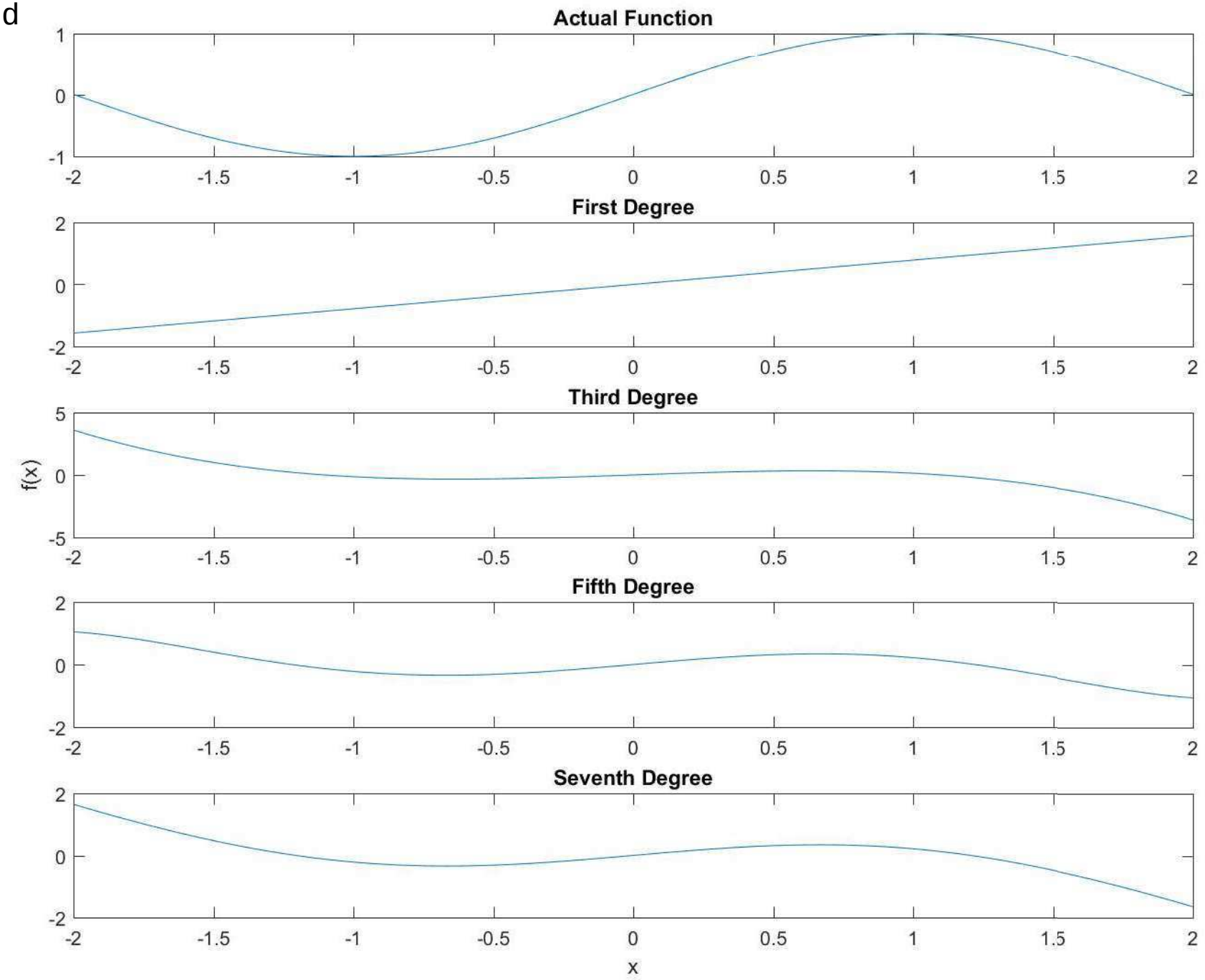
1.d


Actual Function
First Degree
Third Degree
Fifth Degree
Seventh Degree
f(x)
x

4


```
>> newtMeth
The root is approximated as...

x =

    0.3296

...and the order of convergence is apparently one, since...

r =

    1.0784

...which implies the multiplicity of this root is two or higher.
Further, since the order of conv. is one, this converges as slowly
as bisection.
>>
```

```
>> secant
i = 0     r = NaN      x0 = -2.000000000000000e+00     x1 = -3.000000000000000e+00     x2 = -2.833333333333334e+00
i = 1     r = NaN      x0 = -3.000000000000000e+00     x1 = -2.833333333333334e+00     x2 = -2.907928388746803e+00
i = 2     r = NaN      x0 = -2.833333333333334e+00     x1 = -2.907928388746803e+00     x2 = -2.912449640422373e+00
i = 3     r = NaN      x0 = -2.907928388746803e+00     x1 = -2.912449640422373e+00     x2 = -2.912228585591192e+00
i = 4     r = NaN      x0 = -2.912449640422373e+00     x1 = -2.912228585591192e+00     x2 = -2.912229178402829e+00
i = 5     r = NaN      x0 = -2.912228585591192e+00     x1 = -2.912229178402829e+00     x2 = -2.912229178484397e+00
i = 6     r = NaN      x0 = -2.912229178402829e+00     x1 = -2.912229178484397e+00     x2 = -2.912229178484397e+00
i = 7     r = NaN      x0 = -2.912229178484397e+00     x1 = -2.912229178484397e+00     x2 = -2.912229178484397e+00
i = 8     r = NaN      x0 = -2.912229178484397e+00     x1 = -2.912229178484397e+00     x2 = NaN
i = 9     r = NaN      x0 = -2.912229178484397e+00     x1 = NaN     x2 = NaN
i = 10     r = NaN      x0 = NaN     x1 = NaN     x2 = NaN
Secant method reaches an approximation accurate to within near
10^-11 in 6 steps with 6 function evaluations
>>
```

```
>> U = [1,2,-1;0,3,-1;0,0,2]

U =

     1     2    -1
     0     3    -1
     0     0     2

>> b = [-1;0;1]

b =

    -1
     0
     1

>> backwardSub(U, b)

ans =

   -0.8333
    0.1667
    0.5000

>>
```

```
>> L = [1,0,0;2,1,0;3,4,1]
b = [-1;0;1]

L =

     1     0     0
     2     1     0
     3     4     1


b =

    -1
     0
     1

>> forwardSub(L, b)

ans =

    -1
     2
    -4

>>
```