

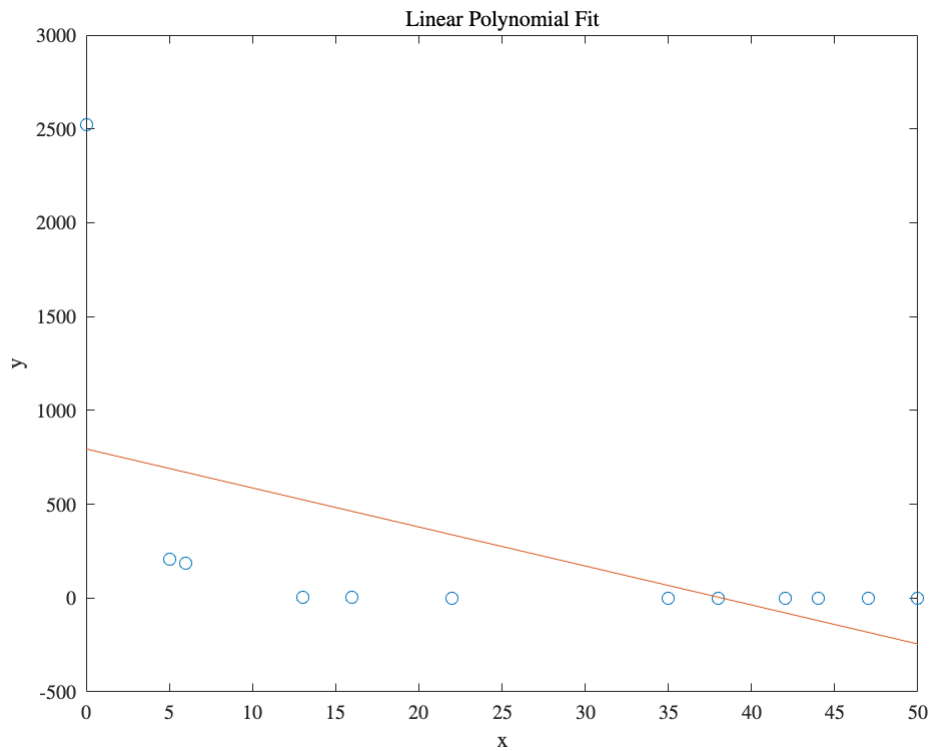
Lab 4

Jessie Li // October 11, 2023

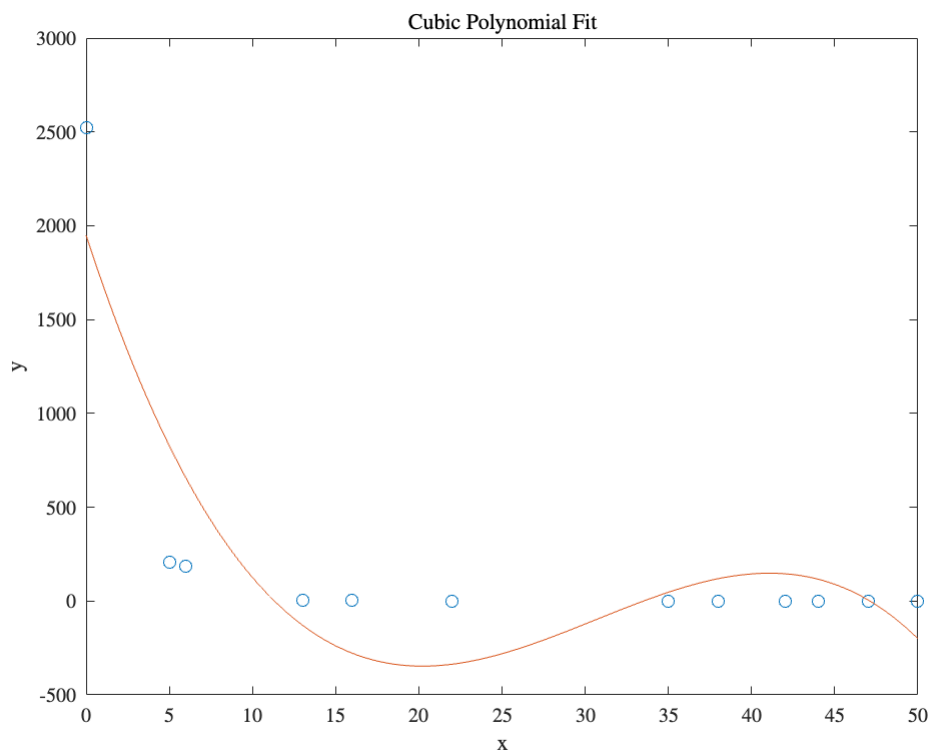
1. Polynomial & exponential approximations

```
main1
```

```
coeffs = 2×1  
 794.5747  
 -20.7863  
error = 4.7095e+03
```



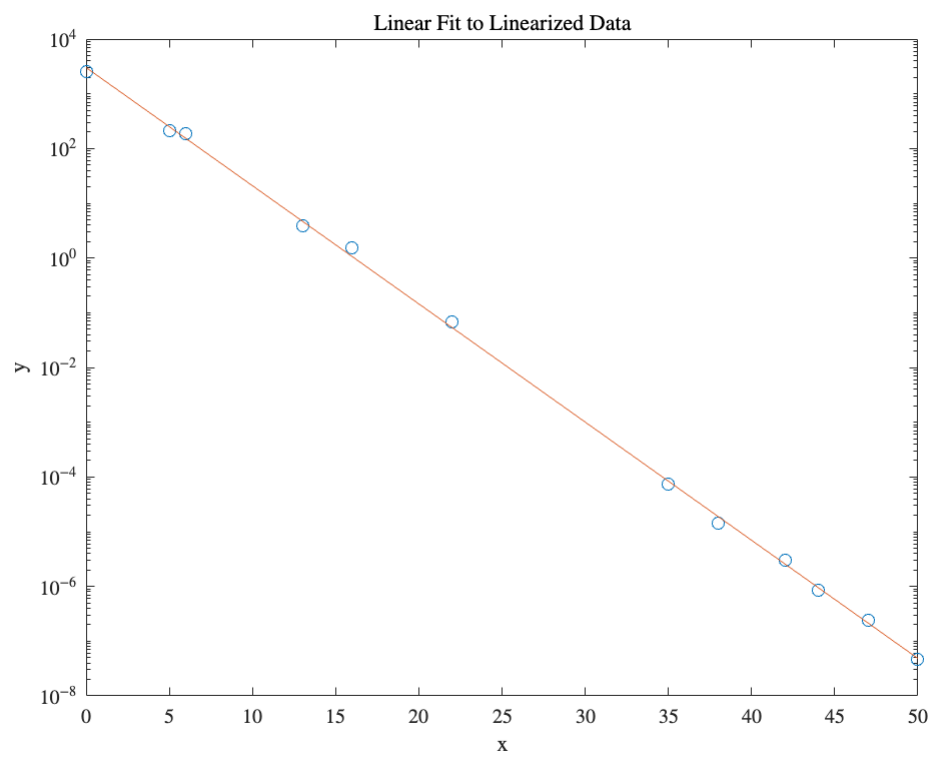
```
coeffs = 4×1  
103 ×  
 1.9493  
 -0.2717  
 0.0100  
 -0.0001  
error = 3.0460e+03
```



```

coeffs = 2x1
103 ×
    3.0138
   -0.0005
error = 567.9959

```

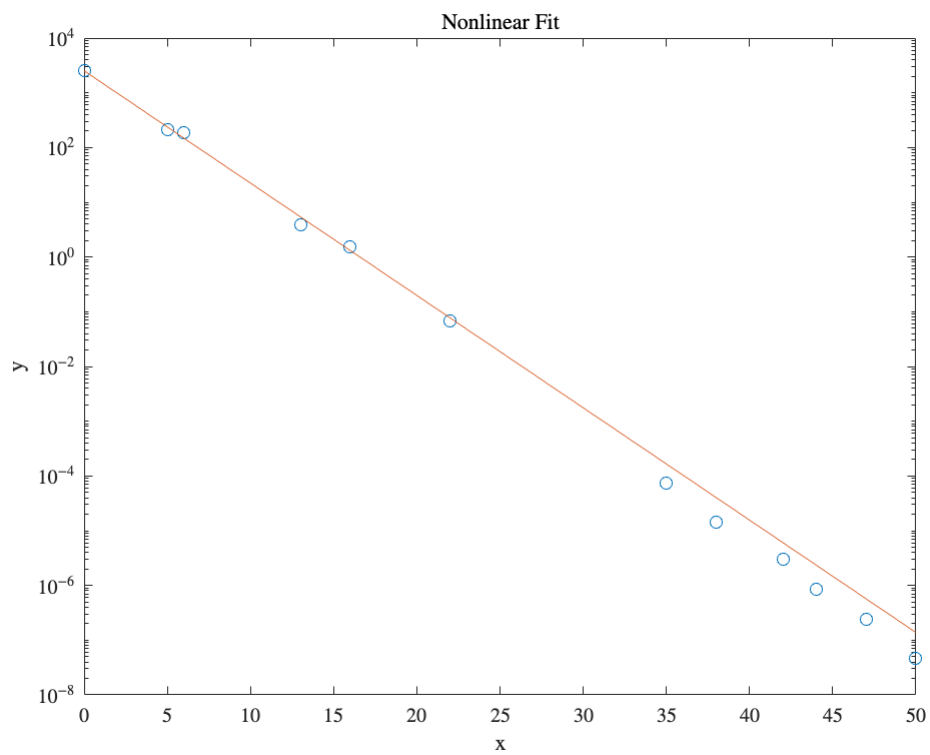


```

coeffs = 2x1

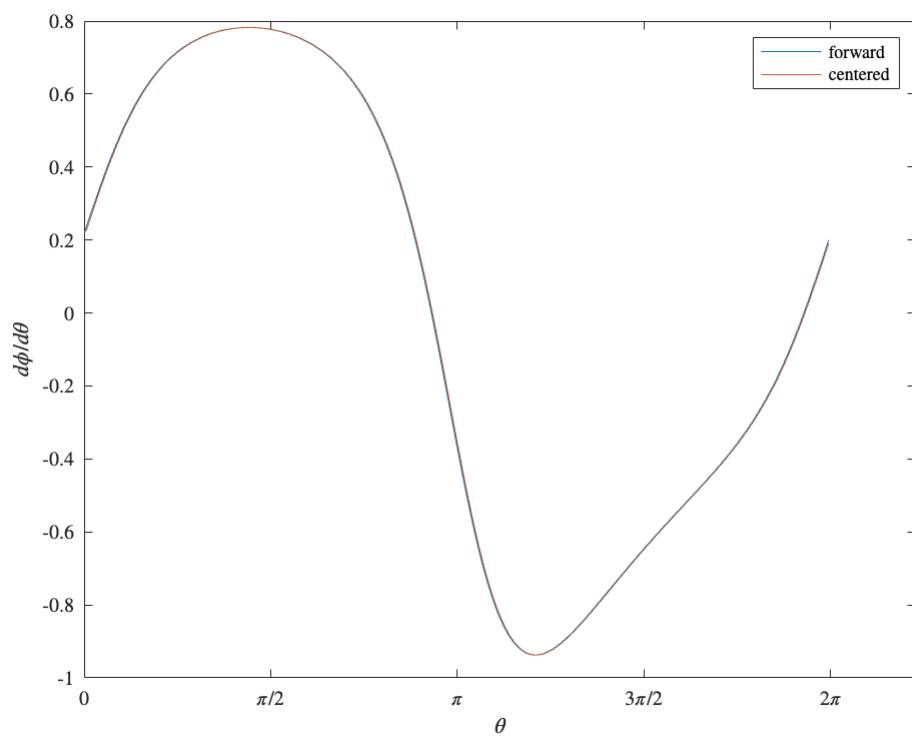
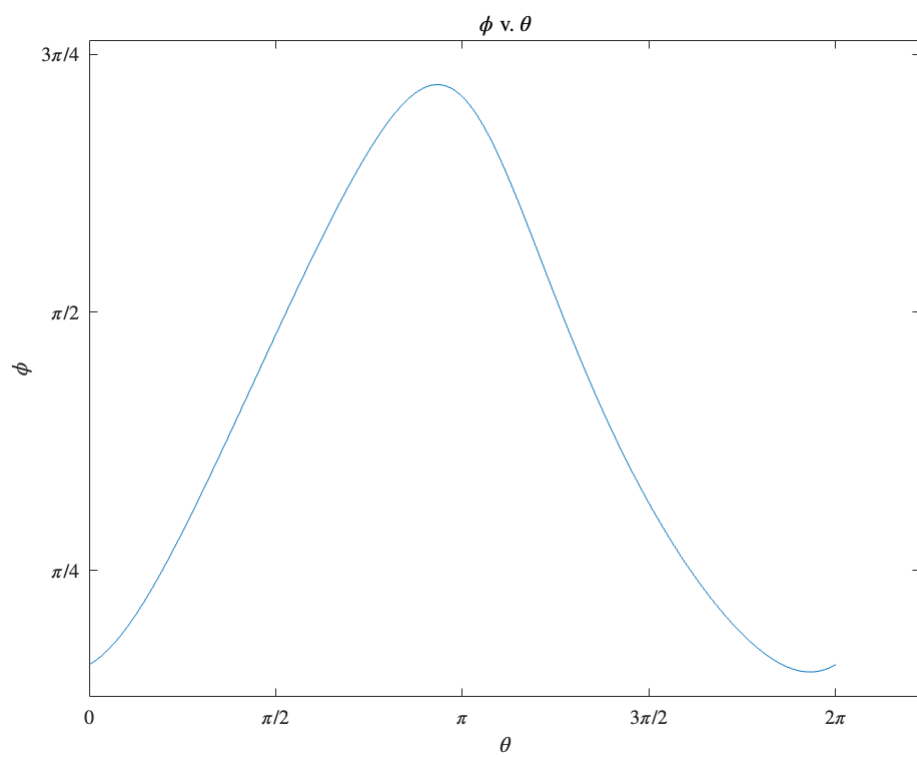
```

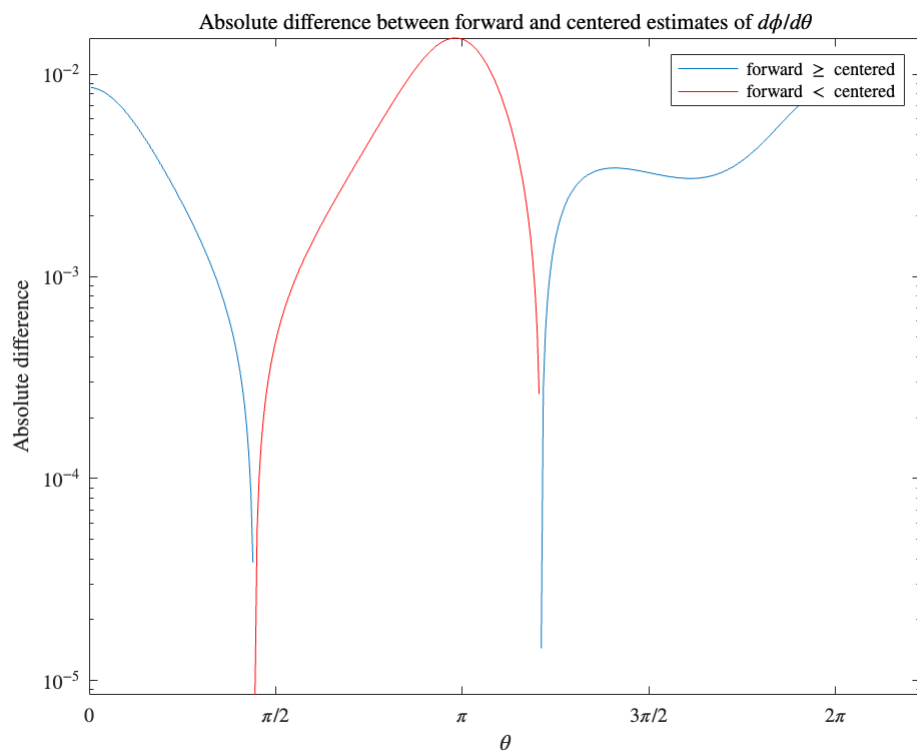
$10^3 \times$
2.5233
-0.0005
error = 69.9917



2. Numerical differentiation

```
main2a(false)
```





```
ans = 361x1
0.4981
0.5018
0.5059
0.5103
0.5150
0.5200
0.5252
0.5308
0.5366
0.5428
⋮
```

main2b

