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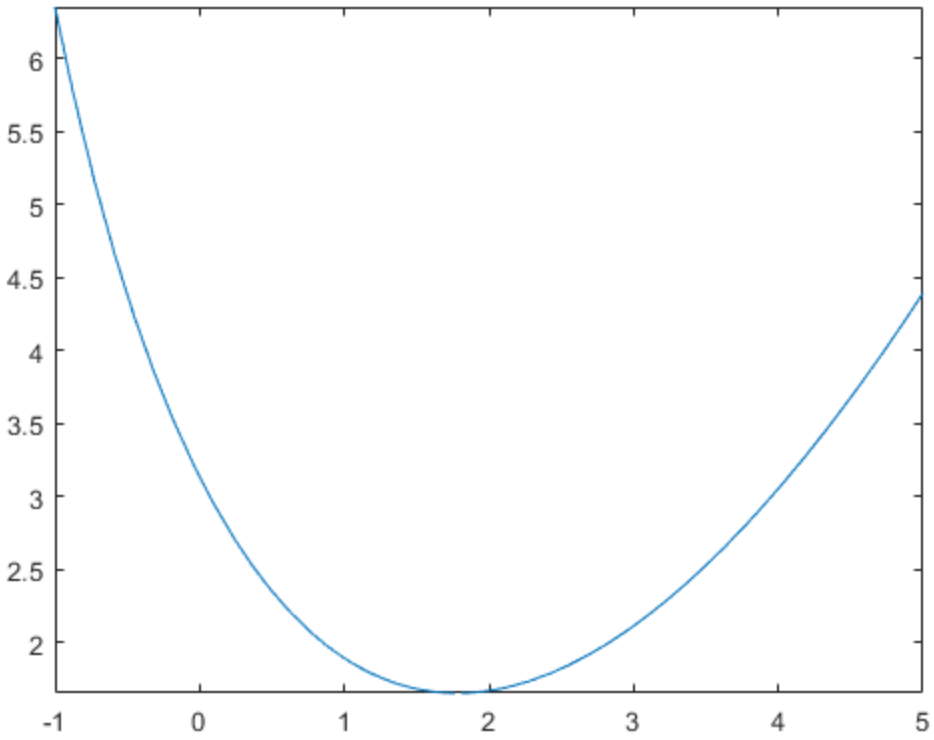
```
close all
clear all
clc

%Ben Ridenbaugh
%Homework 3
```

Chapter 5

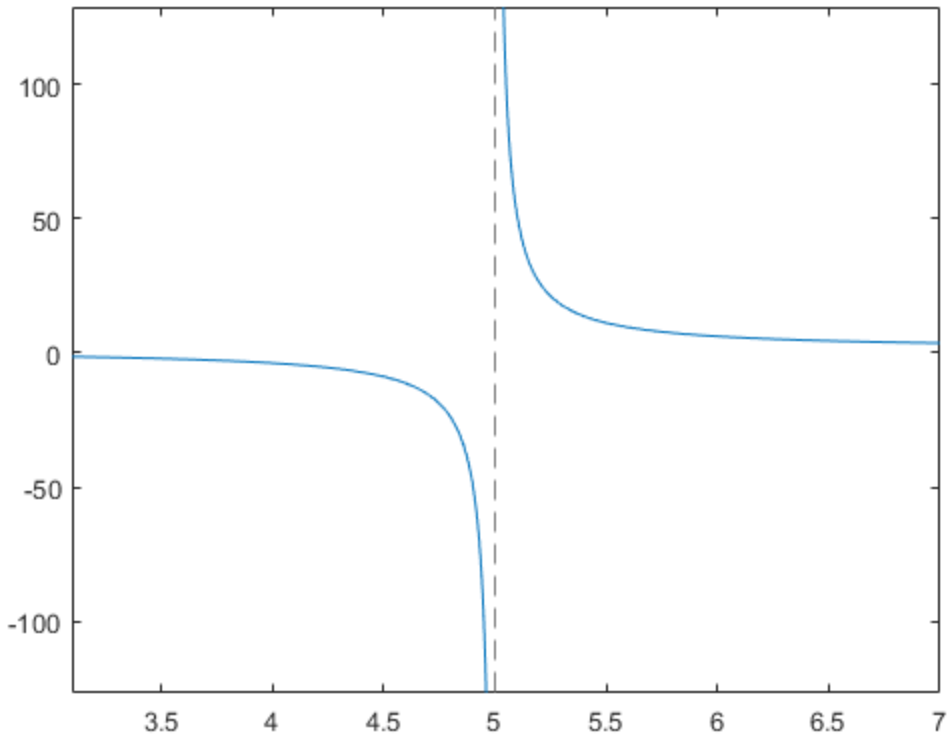
Problem 1

```
figure
fplot(@(x)((x.^2)-3.*x+7)./sqrt(2.*x+5),[-1, 5])
```



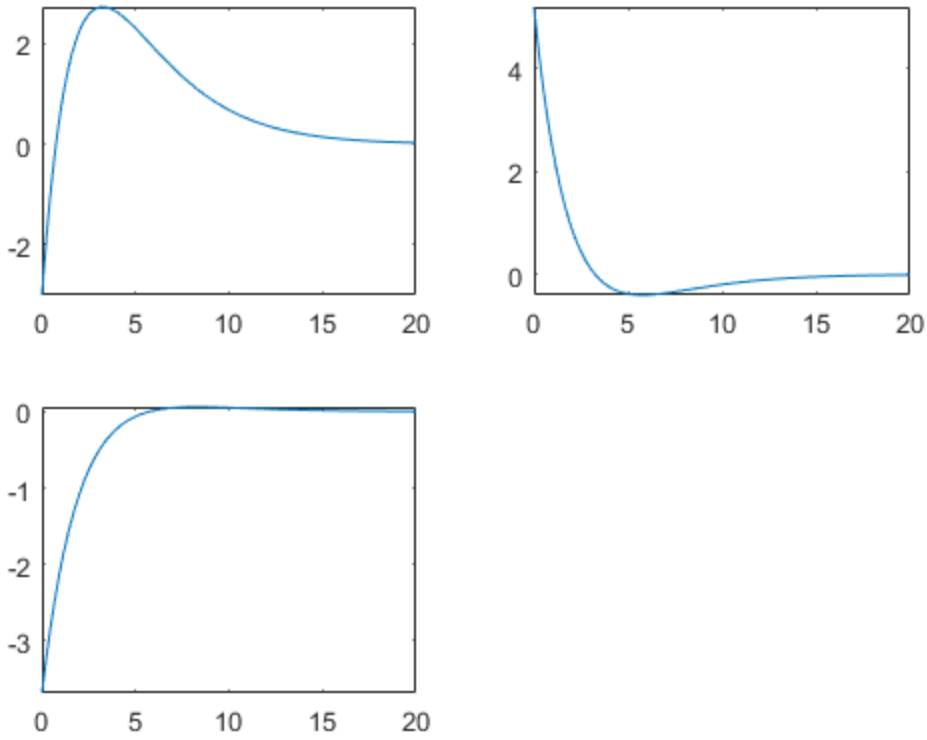
Problem 11

```
figure
fplot(@(x)((x.^2)+3.*x-5)./((x.^2)-3.*x-10),[-1, 2.9])
fplot(@(x)((x.^2)+3.*x-5)./((x.^2)-3.*x-10),[3.1, 7])
```



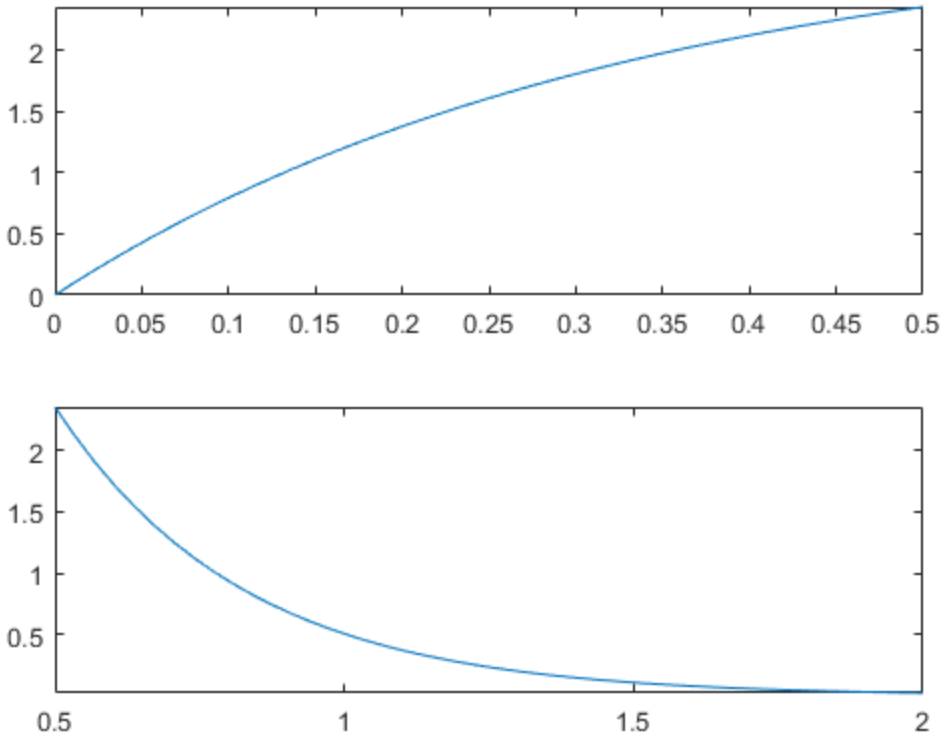
Problem 24

```
figure
subplot(2,2,1)
fplot(@(t)(-3+4.*t).*exp(-.4.*t),[0, 20])
subplot(2,2,2)
fplot(@(t)(5.2-1.6.*t).*exp(-.4.*t),[0, 20])
subplot(2,2,3)
fplot(@(t)(-3.68+.64.*t).*exp(-.4.*t),[0, 20])
```



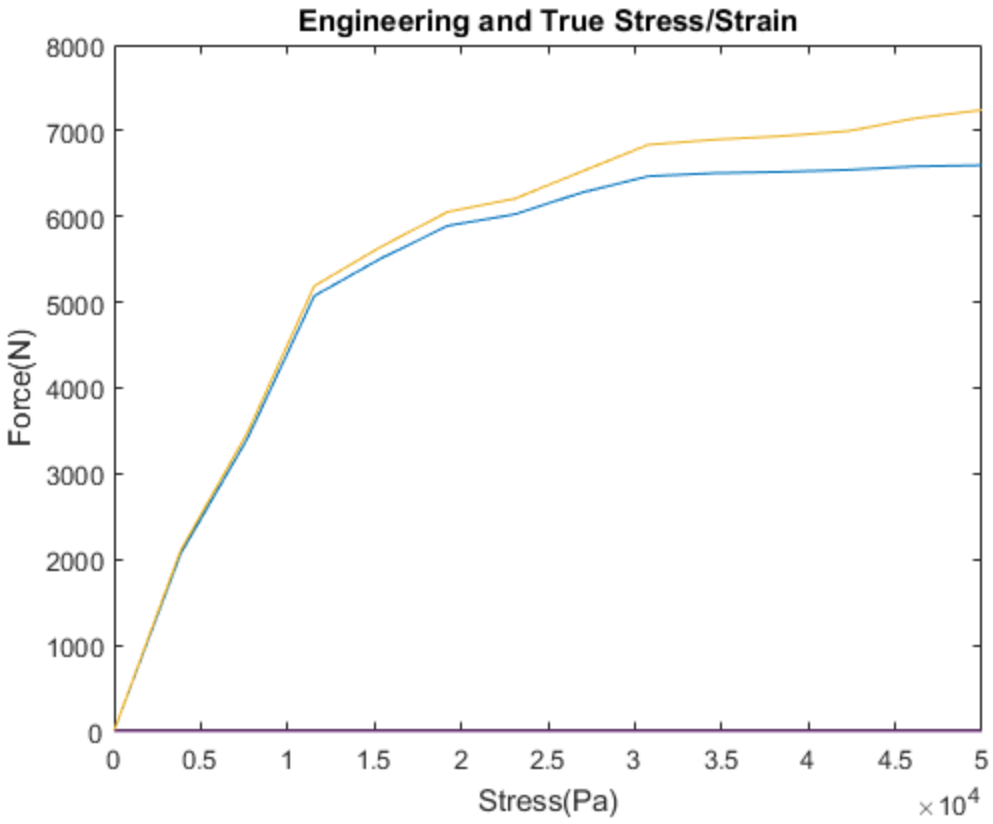
Problem 27

```
r=4;
l=1.3;
v=12;
figure
subplot(2,2,[1,2])
fplot(@(t)(v./r).*(1-exp((-r.*t)./l)),[0, 0.5])
subplot(2,2,[3,4])
fplot(@(t)exp((-r.*t)./l).*(v./r).*(exp((.5.*r)./l)-1),[0.5, 2])
```



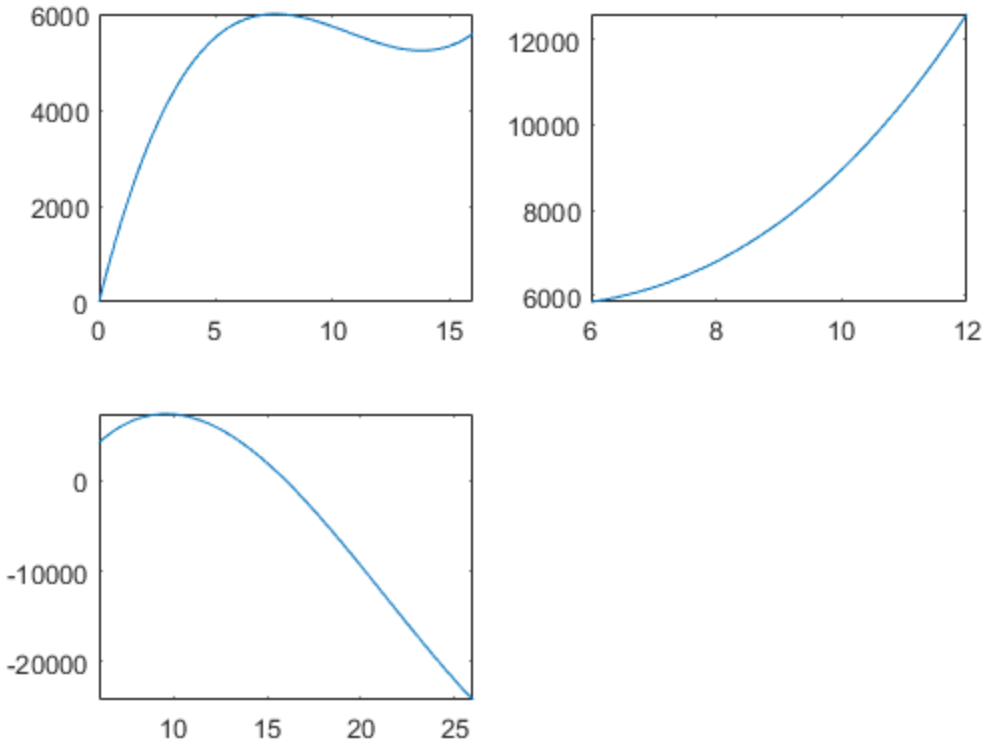
Problem 28

```
Ao=6.3;
Lo=25;
F=[0,13031,21485,31963,34727,37119,37960,39550,40758,40986,41076,41225,41481,41564
L=[25.4,25.474,25.515,25.575,25.615,25.693,25.752,25.978,26.419,26.502,26.6,26.728
x=linspace(0,50000,length(F));
Oe=F./Ao;
Ee=(L-Lo)./Lo;
Ot=(F./Ao).*(L./Lo);
Et=log(L./Lo);
figure
plot(x,Oe,x,Ee,x,Ot,x,Et)
title('Engineering and True Stress/Strain')
xlabel('Stress(Pa)')
ylabel('Force(N)')
```



Problem 36

```
l=16;
a=6;
b=a;
w1=400;
w2=200;
figure
subplot(2,2,1)
fplot(@(x) (w1.*a.*(2.*l-a)+w2.*x.^2)./(2.*l).*x-((w1.*x.^2)./2),[0
 16])
subplot(2,2,2)
fplot(@(x) (w1.*a.*(2.*l-a)+w2.*x.^2)./(2.*l).*x-((w1.*a)./2).*(2.*x-
a),[6 12])
subplot(2,2,3)
fplot(@(x) (w2.*x.*(2.*l-x)+w1.*a.^2)./(2.*l).*(l-x)-((w2.*(l-
x).^2)./2),[6 26])
```



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