1-

x=[1 2 5 3 7];

p1=x.^3 + 12*x.^2 +x+5

 p2=log(x)+exp(0.1*x) +4*x.^3

2-
>> b=[-7 9 15]';

>> A=[0 1 -3; 2 3 -1; 4 5 -2]

A =

```
   0   1   -3
   2   3   -1
   4   5   -2
```

>> inv(A)*b

ans =

```
   1.6667
   3.0000
   3.3333
```

3-

>> A=[1 0 2; 2 5 4; -1 8 7]

A =

```
    1   0   2
    2   5   4
   -1   8   7
```

>> B=[7 8 2; 3 5 9; -1 3 1]

B =

```
     7     8     2
     3     5     9
    -1     3     1


>> A+B

ans =

     8     8     4
     5    10    13
    -2    11     8

>> A*B

ans =

     5    14     4
    25    53    53
    10    53    77

>> A*A

ans =

    -1    16    16
     8    57    52
     8    96    79

>> A^2

ans =

    -1    16    16
     8    57    52
     8    96    79

>> A^3

ans =

      15     208     174
      70     701     608
     121    1112     953

>> A'

ans =
```

```
   1    2    -1
   0    5    8
   2    4    7
```

```
>> B' * A'
```

```
ans =
```

```
    5   25   10
   14   53   53
    4   53   77
```

```
>> inv(A)
```

```
ans =
```

```
   0.0667    0.3556   -0.2222
  -0.4000    0.2000    0.0000
   0.4667   -0.1778    0.1111
```
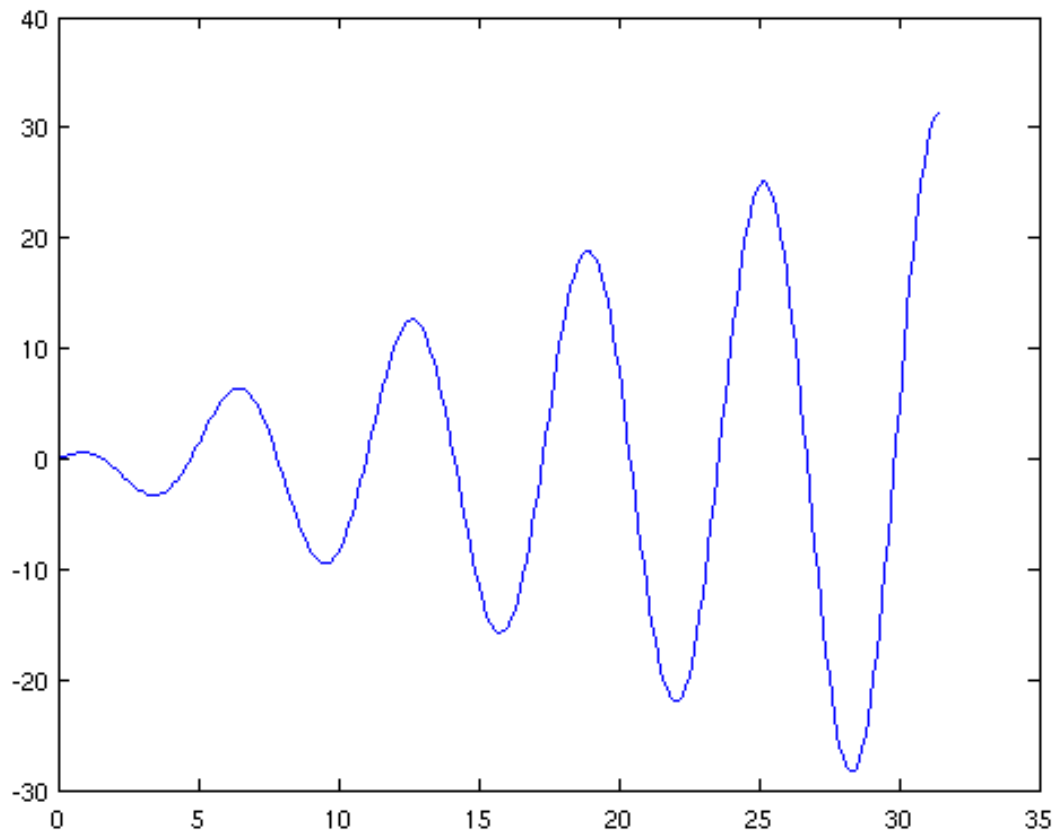
```
>> A^-1
```

```
ans =
```

```
   0.0667    0.3556   -0.2222
  -0.4000    0.2000    0.0000
   0.4667   -0.1778    0.1111
```

```
>>
```

4_

```
 t=[0:0.1:10*pi];
>> plot(t,t.*cos(t))
```

```
>> t=[0:0.1:2*pi];
>> x=exp(t);
>> y=100+exp(3*t);
>> plot(t,t,t,y)
```