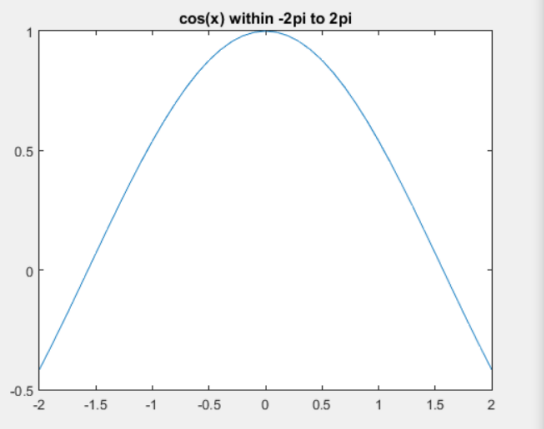
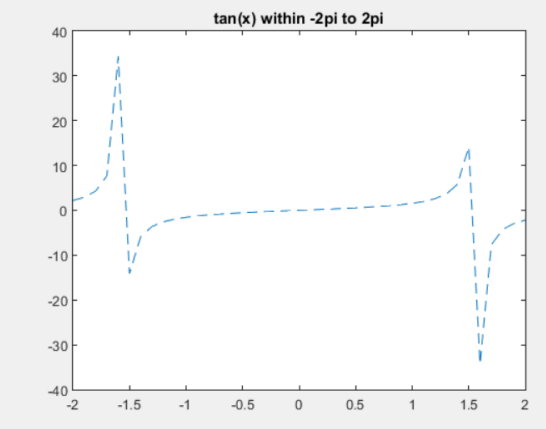
Q1:

Plot





Solve the equation and display up to 0.01 accuracy

soln1 =0.75 ;

soln2 =0.0 ;

Q2:

Results:

score =

73 92 65 41 37 80 67 54 90 82 85 69 76 74 82 87 69 78 85

grade =

'B' 'A+' 'C+' 'D' 'F' 'A' 'C+' 'C' 'A+' 'A' 'A' 'B' 'B+' 'B' 'A' 'A' 'B' 'B+' 'A'

Q3:

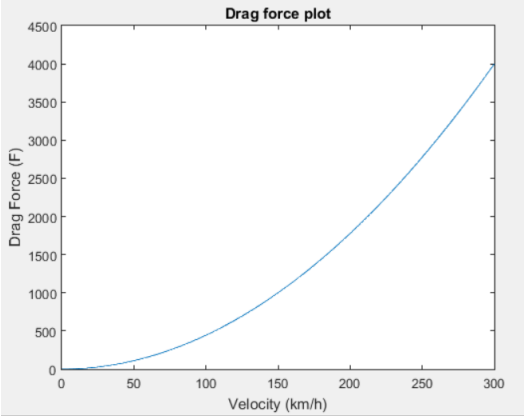
Input the drag force, F, in (N): 2000

Input air velocity, V: in (km/h) 300

Input air density, p: in (kg/m3) 1.29

Input surface area, A: (m2) 8

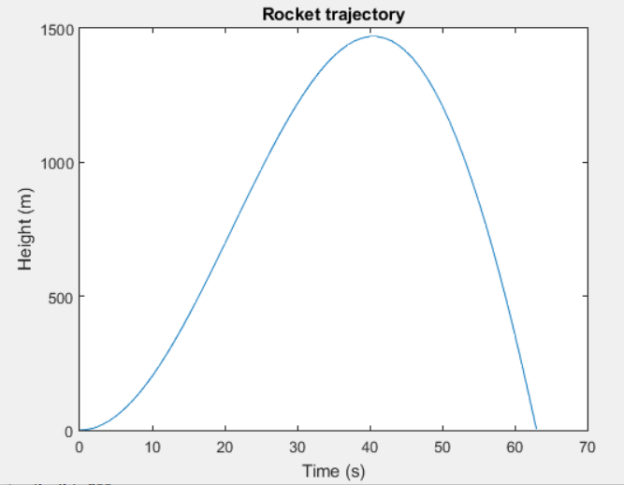
The drag coefficient is: 0.0043066



Q4:

Rocket reaches to maximum height at :41 seconds.

Rocket falls to ground at:64 seconds.



Q5:

The program automatically select the better choice between short term and long term, and calculate the total amount for the hours of parking

The total payment for ten days is shown below

```
payment_summary =

   13.0000    6.5000   18.0000    3.5000   18.0000   54.0000         0         0   13.0000   10.0000
   36.0000         0   18.0000    4.5000   10.0000    8.5000    6.5000   10.0000   13.0000    6.5000
    4.5000    6.5000   16.0000   18.0000    6.5000    8.5000    6.5000    7.5000   18.0000    8.5000


total_payment_ten_days =

  136.0000
  113.0000
  100.5000
```