clc

clear

format compact

format short g

disp('Problem: 1')

%Input velocity vector

v = input(‘Please enter the wind speed velocities as a 5 element vector [x x x x x]: ‘)

T = 30;

%Calculate wind chill

Twc = 35.74+0.6215\*T-35.75\*v.^(0.16)+0.4275\*T\*v.^(0.16);

%Display table

for i = 1:5

fprintf('\nAt temperature 30 degrees F, for wind speed %.i mi/h the wind chill is %3.5f degrees F',v(i),Twc(i))

end

disp('Problem: 2')

P = input(‘Please enter the principal in dollars’)

r = input(‘Please enter the interest rate in percentage’)

r = r/100;

y = [10:30];

T = 0;

%Calculate monthly payment and total payment for each year and display table

for i = [1:21]

M = P\*(r/12)./(1-(1+r/12)^(-12\*y(i)));

T = y(i)\*M\*12;

fprintf('\n Year %.i Monthly Payment $%3.2f Total Payment $%3.2f',y(i),M,T)

end

disp(‘Problem: 3’)

m = 20000;

t = linspace(0,0.5,100);

%calculate velocity and displacement

v = 26.67.\*exp(-6.32\*t)-6.67\*exp(-1.58\*t);

x = 4.219\*(exp(-1.58\*t)-exp(-6.32\*t));

%Display table

for i = [1:100]

fprintf('\nTime (seconds): %3.2f Displacement (meters): %3.2f Velocity (meters/second): %3.2f', t(i), x(i), v(i))

end