**PROBLEM:**  Create a well-structured function to compute v as a function of t in Matlab for t = -5 to 50 at increments of 0.5

Output the solution in graph form(saves space).

**SOLUTION:**

Here is my script:

%% Problem 5(Book 2.18)

% Computes velocity of a rocket as a fuction of time using logical elimination of options in a piecewise function

% Clears all windows, commands, and variables

clear all; close all; clc;

% Creates the range of time(t)

tarray = -5:0.5:50;

t = -5;

n = 1;

v(111) = 0;

%Call up table header

fprintf('Time \t Rocket Velocity\n');

for i = 1:0.5:56

if t>30

v(n) = 1520\*exp(-0.2\*(t-30));

elseif t<=30 && t>=20

v(n) = 50\*t+2\*(t-20)^2;

elseif t<=20 && t>=10

v(n) = 1100 - 5\*t;

elseif t<=10 && t>=0

v(n) = 11\*t^2 - 5\*t;

else

v(n) = 0;

end

fprintf('%0.1f \t %f\n',t, v(n));

t = t+0.5;

n = n+1;

end

%Create plot referenced from data and table.

plot(tarray, v); xlabel('Time(sec)'); ylabel('Rocket Velocity'); title('Rocket Velocity from Blast Off');

And its output in graph form(Matlab will also output in table form):

