# Code

## Function

function v=rocket\_vel(t)

v=[];

for i=1:length(t)

if(t(i)>=0 && t(i)<=8)

v=[v 10\*t(i)^2-5\*t(i)];

elseif(t(i)>=8 && t(i)<=16)

v=[v 624-3\*t(i)];

elseif(t(i)>=16 && t(i)<=26)

v=[v 36\*t(i)+12\*(t(i)-16)^2];

elseif(t(i)>26)

v=[v 2136\*exp(-.1\*(t(i)-26))];

else

v=[v 0];

end

end

end

## Script

clc

clear all

close all

t=-10:50;

v=rocket\_vel(t);

plot(t,v)

grid

xlabel('t')

ylabel('v')

title('rocket velocity ')

# Output

