

Prob02010

MATLAB Code:

```
%clear all variables from workspace
clear all
% define a vector x from 0 to pi/2 with interval of pi/4
x=0:pi/40:pi/2
% define parameters a and b

a=2;
b=5;
%write down the expression for y in form of parametes a,b and variable x

y=b*exp(-a.*x).*sin(b.*x).*(.012*(x.^4)-.15*(x.^3)+.075*(x.^2)+2.5*x)
z=y.^2

format shortG %change formate to shortG
%define matrix w where column represents x,y,z respectively
w=[x;y;z]

%plot dashed red x versus y line having linewidth 1.5 with 14 sized edged
and white faced pentagram markers
plot(x,y,'--rp','LineWidth',1.5,'MarkerFaceColor','w','MarkerEdgeColor','r','MarkerSize',
14)
%hold the figure to plot next graph on same figure
hold on
%plot solid blue x versus z line having standard linewidth with standard
size green edged and blue faced square markers
plot(x,y,z,'b-s','MarkerFaceColor','b','MarkerEdgeColor','b')
%write legends on the plot
legend('x vs y','x vs z')
```

Results:

