

```
%enemy ship blasted off
%by Caroline Liron
% exam1
% some sections. fall 2017. practice exam1

clc;
clear;
close all;

%enemy data
k = 6000;
xEnemy = -40000;
yEnemy = -60000;
t = linspace(0,7);
xs = k*(cos(4*t)-cos(3*t).^3) + xEnemy ;
ys = k*(sin(4*t)-sin(2*t).^3) + yEnemy;

%blast shield data
blastStrength = 1100;
shipAngle = angle(xEnemy +1i*yEnemy)*180/pi %EXTRA CREDIT (other options too)
tinterval = linspace(0, 20*pi, 200);
x_t = blastStrength*tinterval.*(cos(2*tinterval)*cosd(shipAngle)-sin(tinterval)*sind
(shipAngle));
y_t = blastStrength*tinterval.*(cos(2*tinterval)*sind(shipAngle)+sin(tinterval)*cosd
(shipAngle));

%combine both plots, add format adequately
plot(0,0,'p', x_t,y_t,'--',xs,ys,'-', 'linewidth',2);
axis equal off;
title('Shields On');
legend('MyShip','Protecting Blast','Enemy Ship','location','best');

%{
testing: (not asked - but omit the semicolon)

shipAngle =

-123.6901
%}
```