```
% Zachary Linkletter
% ECE 498 HW 7
% 4/2/18

clear
clc

% Question 1
funct = @(x) .005*x - sin(x);
bounds=linspace(-5,5,101);
for i=1:100
        % Look for the zeros in the function's current window.
        x(i)=fzero(funct, bounds(i));
end
Q1 = x(diff(x)>1e-12)
% Question 2

coef = [1, 2, 7, 8, 10, 0, 1];
Q2 = roots(coef)

% Question 3

%function F = hw7solve(x)

%F(1) = 3*x(1)*x(2) + x(2) - x(3) - 12;
%F(2) = x(1) + x(2) * x(1)^2 + x(3) - 12;
%F(3) = x(1) - x(2) - x(3) + 2;

fun = @hw7solve;
x0 = [0,0,0];
Q3 = fsolve(fun,x0)
```

```
Q1 =

   -6.3148   -3.1260    0.0000    3.1260


Q2 =

  -0.1283 + 2.0598i
  -0.1283 - 2.0598i
  -0.9137 + 1.2297i
  -0.9137 - 1.2297i
   0.0420 + 0.3135i
   0.0420 - 0.3135i


Equation solved.

fsolve completed because the vector of function values is near zero
as measured by the default value of the function tolerance, and
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```
the problem appears regular as measured by the gradient.
```

```
Q3 =

    2.0000    2.0000    2.0000
```

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