MATLAB HOMEWORK

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| P1 | Here, we’d like to numerically find the solutions (roots) of the following equation    1) Plot *f*(*x*) over  C:\Users\Seungchul\Pictures\Photo Stream\My Photo Stream\IMG_1758.JPG  2) Numerically find all the roots (solutions) of with a hint of the above figure. |
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| P2 | In this problem, we want to repeat P1 with the following equation    1) Plot  2) Use ‘syms’ to calculate the analytical solutions of  3) Numerically find all the roots (solutions) of  and compare them with  4) Type the following two lines of m-code and execute them to understand ‘roots’ command   |  | | --- | | p = [1 -5 -14];  x = roots(p) | |
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| P3 | Run the following m-code which explains how to make a kind of animation effect in Matlab.   |  | | --- | | figure(1); hold on  axis([-1 1 -4 .5])  for x = -1:0.05:1  y = -4\*x^2;  plot(x,y,'s')  pause(0.1)  end  hold off |  |  | | --- | | figure(2); hold on  axis([0 2\*pi -1 1])    x = 0:0.01:2\*pi;  for i = 1:10  y = 1/i\*sin(x);  % cla  plot(x,y)  pause(0.5)  end  hold off | |
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| P4 | Write a m-code to create a circle as shown in the below figure. (hint: there are many ways to realize this problem, but think about Euler’s formula (<http://en.wikipedia.org/wiki/Euler's_formula>)) |
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| P5 | Create an animation which the green dot is moving around the unit circle (counter clockwise). |