M408C: Problem Set 0

Problem 1

Draw the graphs of the following functions:

$$x^2, \quad (x^2+7), \quad (x+7)^2, \quad 2x+3, \quad \frac{1}{x}.$$

Problem 2

Draw the graphs of the following functions:

$$\sin(x), \quad \cos(x), \quad \tan(x).$$

Problem 3

The y-intercepts of a graph are the y coordinates of the points where the graph intersects the y-axis. They are found by setting $x = 0$ in the equation of the graph.

The x-intercepts of a graph are the x coordinates of the points where the graph intersects the x-axis. They are found by setting $y = 0$ in the equation of the graph.

Calculate the x and y-intercepts of the graphs of the following functions:

$$x^2 - 14x + 49, \quad \frac{x+2}{x-3}, \quad \sin(x), \quad \cos(x).$$

Problem 4

Draw the following intervals:

$$[0,1], \quad (0,1), \quad (-\infty, 0), \quad [0,\infty), \quad [0,1] \cup (2,3).$$

Problem 5

Write the equation of a straight line with slope s passing through the point (a,b).