MA 162 Recitation Worksheet Thursday 28^{th} August 2014

Please attempt as many of the questions as you have time.

1. Draw a set of coordinate axes and plot the following points:
   (a) $(1, -1)$
   (b) $(-3, 4)$
   (c) $(2.5, -3)$
2. What can you say about the signs of a and b if the point $P(a, b)$ is in the second quadrant? What if P is in the fourth quadrant?
3. For each pair of slopes, decide if lines with the given slopes would be parallel, perpendicular, neither, or both.
   (a) $-\frac{3}{5}$ and 6 would be
   (b) $\frac{9}{8}$ and $-\frac{8}{9}$ would be
   (c) $\frac{7}{10}$ and $-\frac{10}{7}$ would be
   (d) $-\frac{5}{7}$ and $-\frac{5}{7}$ would be
   (e) -13 and 103 would be
   (f) 53 and 53 would be
4. Cricket Chirping and Temperature
   Entomologists have discovered that a linear relationship exists between the number of chirps of crickets of a certain species and the air temperature. When the temp is 70^oF, the crickets chirp at a rate of 120chirps/min and when the temp is 80^oF they chirp at a rate of 160chirps/min. Find an equation giving the relationship between the air temperature T and the number of chirps/minute. Interpret this equation.
5. College Admissions
   Using data compiled be the Admissions Office at Faber University, college admissions officers estimate that 55% of the students who are offered admission to the freshman class ath the university will actually enroll.
   (a) Find an equation that expresses the relationship between the number of students who actually enroll (y) and the number of students who are offered admission to the university (x).
   (b) If the desired freshman class size for the upcoming academic year is 1100 students, how many students should be admitted.
6. Find an equation of the line that passes through the point $(-2, 2)$ and is parallel to the line $2x - 4y - 8 = 0$.