1. (3pts) Which of the points $A = (3, -1)$ and $B = (-2, 5)$ is closer to the point $C = (1, 2)$?

2. (4pts) Solve the inequality and illustrate the solution on the number line:

$$3 \le \frac{4x - 1}{2} \le 6$$

3. (4pts) Find the equation of the line that contains $(-2, 4)$ and is perpendicular to the line $3x - 2y = 6$.

4. (4pts) Find the equation of the line whose x-intercept is 3 and whose y-intercept is 2. Draw a picture.

5. (2pts) Find the midpoint of the points $(1, 3)$ and $(3, -4)$.

6. (4pts) Put the complex number into standard form:

$$\frac{3+i}{2-3i} =$$

7. (7pts) The equation $y = x^2 - 5x + 3$ is given.
a) Use your calculator to accurately sketch the graph of the equation on paper. Indicate your viewing window.
b) Using your calculator, find the greatest x-intercept accurate to two decimal points.
c) Now find the greatest x-intercept algebraically, by solving a certain equation. Does your answer agree with b)?

8. (3pts) Solve for x:

$a + 3x - bx + b = 2ax - 4a$

9. (5pts) Solve the equation:

$\sqrt{2x^2 - 7} = x - 1$

10. (4pts) Find the equation of the circle that contains the origin whose center is $(3, 4)$. Sketch the circle.

11. (4pts) An inheritance of $10,000 is to be divided between Sean and George, with George to receive $3,000 less than Sean. How much will each receive?

12. (6pts) How many milliliters of a 20% solution of hydrochloric acid needs to be added to 200ml of a 35% solution in order to get a 25% solution? Don't forget to write down what your variable means.

Bonus (5pts) The actual voltage U of a 1.5-volt battery is allowed to differ from 1.5 volts by less than 0.13 volts. Express this fact using an inequality involving absolute value. Solve for U.