Suggested Problems for Wednesday, August 29

For each of the following lines, practice converting among the various forms of equations, and graph them. For each pair of them, determine whether or not they are parallel, and if they are not, find the point of intersection:

1. $x - 2y + 3 = 0$
2. $y = \frac{1}{2}x + 4$
3. $y + 2 = -\frac{1}{2}x - 2$
4. $x + 2y + 2 = 0$

For additional practice with the equations and graphs of lines, look at problems 1–34 in Section 1.3.
For additional practice solving systems of linear equations, look at problems 37–42 in Appendix A2.

For the following functions, determine as much information as you can (domain, image, x- and y-intercepts, asymptotes) about the function, and draw an accurate graph:

1. $f(x) = x^3 + 8$
2. $f(x) = -\frac{1}{2}(x + 2)(x - 6)$
3. $y = \sqrt[3]{x}$
4. $y = \sqrt{9 - x^2}$
5. $f(x) = 3 - \frac{1}{\sqrt{2x - 4}}$
6. $y = \frac{(x + 1)(2x - 5)}{(x - 3)(3x + 10)}$

For additional practice with domains of functions, look at problems 12–21 in Section 1.1.
For additional practice with graphs of functions, look at problems 3–28 in Section 1.2.