Things to Know for Exam 1: Math 90CM

Exam #1 is scheduled for Friday, October 3.
Supplied needed: Pencils, a ruler, a scientific calculator.
MEMORIZE: Slope Formula, Slope-Intercept Form of the Equation, and Point-Slope Form

1. Plot points on a graph. Name quadrants, axes, and x- and y-intercepts.
2. Graph linear equations.
   Ex: Graph y=3x+5;
3. Draw graphs, labeling and scaling axes based on information given in a "story problem" (similar to problems #56-57 in 4.1)
4. Find x- and y-intercepts of a graphed line or of a linear equation.
   Ex: What are the x- and y-intercepts of 3x+2y=6
5. Graph a line by finding the x- and y-intercepts (see section 4.2)
6. Find equations for vertical and horizontal lines: Be able to graph them and find their slope.
   Ex: Graph y=3; x=7. What is the slope of y=3? x=7?
7. Find the slope of a line from the equation, from the graph of the line, or from two points on the line.
   Ex: Find the slope of the line containing (3,1) and (4,5). Find the slope of the line 2x+3y=4.
8. Find a rate of change given graphical information (pg 284, #39-42)
9. Recognize and use the slope-intercept form: $y = mx + b$.
   Ex: Find the slope and y-intercept of $y = 2x - 7$. Graph the line $y = x - 2$. Find the slope-intercept equation for a line with slope of -3 and passing through (0, 5).
10. Given the slope and a point other than the y-intercept, be able to find a slope-intercept equation for the line.
    Ex: Find a slope-intercept equation for the line going through (3,3) and having a slope of 7.
11. Be able to graph a line given information about its slope and a point it passes through, or given a point-slope equation.
    Ex: Graph the line that passes through (-5, -2) with a slope of -2.
12. Write the equation of the line passing through two points by first finding the slope of the line and then using the point-slope form the equation.
    Ex: Problems 11-12 on p. 283.
13. Without graphing, determine if the graphs of two given equations would be parallel, perpendicular, or neither.
    Ex: are the lines $y = 3x - 2$ and $3x - y = 7$ parallel, perpendicular, or neither?