COLLEGE ALGEBRA
Math 1050
Homework I
Due:

NAME: _____

Your first homework is the following problems from an old Math 1010 final exam. Use this as an indicator of your **readiness** for this course. Use this page as the cover sheet for this homework. Do not solve problems side by side and write on one side of each page. Work neatly.

INTERMEDIATE ALGEBRA
Some Final Exam Problems

1. Find the center and radius of the circle $x^2 + 3x + (y-1)^2 = \frac{7}{4}$.

2. Graph the compound inequality $2y + x \le 2$ and $x - 2y > -4$.

3. Given that $\log_b 2 = 0.6$, $\log_b 3 = 0.96$ and $\log_b 5 = 1.4$, find $\log_b \frac{18}{125}$. (Do not try to find b!)

4. Find the equation of the line through the point $(-4, 3)$ and perpendicular to the line $2x + 5y = 1$. Write your answer in the slope-interccept form.

5. Simplify $\dfrac{(a^2 b^5)^{-\frac{1}{4}}}{(a^{-3} b^{\frac{1}{4}})^6} (a^{-2} b)^2$ completely.

6. Factor $a^3 + a^2 + 3a(a+1) + 2a + 2$ completely.

7. Solve $\frac{1}{x-1} + \frac{1}{x} = \frac{1}{x(x-1)}$.

8. Solve $\sqrt{x-9} = \sqrt{x} - 1$.

9. A ball is thrown up from the height of $32\,ft$ with the initial velocity of $48\,ft/sec$. The distance, $h\,feet$, of this ball from the ground at the time $t\,seconds$ is given by $h(t) = -16t^2 + 48t + 32$. Find the maximum distance of this ball from the ground and the time this ball hits the ground.

10. A police cruiser starts chasing a car *one minute* after the car passes its position and it records its speed to be $75\,mi/hr$. If the speed of the police cruiser is $87\,mi/hr$, then how many minutes will it take for it to catch up with the car?