EXAM 2 - MATH 102 Friday, February 28

YOUR NAME:_____ George Voutsadakis

Read each problem **very carefully** before starting to solve it. Each problem is worth 10 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Use your power rules to simplify the following expression and write your answer without negative exponents:

   $$\frac{(2x^3y)^3}{(3x^2y^{-3})^{-2}} =$$

2. Multiply the polynomials

   $$(2w^2 - 3)(w^2 + 6) =$$

3. Factor completely the polynomials

   (a)

   $$-a^3b^2 + 2a^2b^2 - ab^2 =$$

   (b)

   $$x^3 + x^2 - 9x - 9 =$$

4. Andre, Bill and Chris trained for a total of 93 hours last week. Andre and Bill's training time totaled only one-half as much as Chris'. Moreover, Andre trained three hours more than Bill.

   (a) Introduce variables carefully stating their meanings.

   (b) Write a system of equations using your variables that reflect the data.

   (c) Solve the equations to find how many hours each of the guys spent training.

5. Use the matrix method to solve the system $\left\{ \begin{array}{rcl} x-y-z & = & 1 \\ -x-y+2z & = & -2 \\ -x-3y+z & = & -5 \end{array} \right\}$.