EXAM 4 - MATH 102 Friday, December 2

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 the technique of completing the square to solve the equation $4x^2 - 4x - 1 = 0$. Please, do not use a calculator; provide the exact solutions.

2. Use the quadratic formula to solve the equation $3x^2 + 2x - 4 = 0$. Again, do not use a calculator.

3. Use substitution to find the solutions of the equation $(\frac{1}{x-1})^2 + (\frac{1}{x-1}) = 6$.

4. Solve the quadratic inequality $\frac{1}{2}x^2 \geq 4 - x$.

5. Solve the exponential equation $9^{|2x-5|} = 27$.