

YOUR NAME: \_\_\_\_\_

George Voutsadakis

Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Perform the following operations and leave your answer in lowest terms:

(a)  $\frac{2x}{4x^2 - 9} - \frac{x - 7}{2x^2 + 3x} =$

(b)  $\frac{\frac{x+4}{x+1} + \frac{4}{x}}{x+1} - \frac{1}{x+1} =$

2. Divide and write your answer in the proper form:

(a)  $(6x^3 - 7x^2 + 5x + 6) \div (3x - 2)$       (b)  $(x^4 + x^3 - x - 1) \div (x - 2)$

3. Solve the rational equation  $\frac{1}{x-2} - \frac{2}{x+3} = \frac{11}{x^2+x-6}$ .