EXAM 3 - MATH 102   Friday, November 11
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. Solve the equation $2x^3 + x^2 - 18x - 9 = 0$.

2. Perform the operations and simplify the complex fraction

$$\frac{\frac{5}{x-2} + \frac{4}{x^2-4}}{\frac{3}{x+2} - \frac{1}{2-x}}.$$

3. Solve the following equation for x:

$$\frac{x}{x+4} - \frac{2}{x+1} = \frac{-2}{x^2 + 5x + 4}.$$

4. (a) Add and simplify $\sqrt[3]{16a^4} + a\sqrt[3]{2a}$

    (b) Rationalize the denominator and simplify $\frac{2-\sqrt{3}}{\sqrt{2}+\sqrt{6}}$.

5. Solve the radical equation $\sqrt{x^2 - x - 4} = 4$.