QUIZ 8 - MATH 102 YOUR NAME:

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. (a) Perform the long division $(3x^3 + x^2 - 7x + 6) \div (3x - 5)$.

(b) Perform the synthetic division $(-2x^3 - x^2 - 15) \div (x+3)$.

2. Solve the rational equation

$$\frac{x-4}{x^2+2x-15} = 2 - \frac{2}{x-3}.$$

- 3. Paolo can row his boat 15 miles in the same time as it takes Veronica to cover 35 miles in her motorboat. If Veronica's boat travels 20 mph faster than Paolo's, how fast is Paolo rowing?
 - (a) Introduce carefully variables and state their meaning precisely.
 - (b) Write equation(s) reflecting the data and solve them to answer the question posed.