Instructions: Show all work. Use exact answers unless specifically asked to round. Answer all parts of each question.

1. Solve the rational equation $\frac{x^2-4x+1}{x^3-x^2-2x} = 1$. Be sure to check for extraneous solutions.

2. Solve the rational inequality $\frac{2x+17}{x+1} \geq x + 5$. Write the solution in interval notation.

3. Translate the following into a mathematical expression/statement: The drag of an object traveling through a fluid D varies jointly with the density of the fluid ρ and the square of the velocity of the object v.

4. According to the Centers for Disease Control and Prevention, a person's Body Mass Index B is directly proportional to his weight W in pounds and inversely proportional to the square of his height h in inches.
    a. Express this relationship as a mathematical equation.
    b. If a person who was 5 feet, 10 inches tall weighed 235 pounds had a Body Mass Index of 33.7, what is the value of the constant of proportionality?