

Student ID:

Name:

Section:

Problem 1

Solve the nonlinear system:

$$\begin{cases} x = y - 1 \\ y = 2\sqrt{x - 2} \end{cases}$$

Problem 2

Solve the inequalities (with a correct graph):

$$\begin{cases} 2x + y \geq 6 \\ x - y \geq 0 \\ y < 5x + 2 \end{cases}$$

Problem 3

A diet is to contain at least 18 units of carbs and 40 units of protein. Food A contains 2 units of carbs and 10 units of protein; food B contains 3 units of carbs and 2 units of protein. If food A costs SR 3 /unit and food B costs SR 2 /unit, how many units of each food should be purchased in order to minimize cost? What is the minimum cost?