

## Math 1050 - Quiz 6

1. Reduce the following system to echelon form and find the solution set.

$$x + y - z = -2$$

$$3x + y - z = -4$$

$$2x - 2y + 3z = 3$$

2. Reduce the following system to echelon form and find the solution set. [4 points]

$$x + z = 3$$

$$2x + y + 4z = 8$$

$$3x + y + 5z = 11$$

3. Find an equation for the parabola in the form  $y = x^2 + ax + b$  that contains the points  $(4, -3)$  and  $(-1, -7)$ .

4. Sketch the solution set for the following system of inequalities:

$$y \geq x^2 - 9$$

$$x + y - 3 \leq 0$$

5. The perimeter of a rectangle is 110 centimeters. If its length is 8 centimeters greater than its width, what is the area of the rectangular region?

7. Solve the system of equations. (Two-decimal place accuracy.)

$$y = 6e^{-2x}, \quad 5x + \ln y = 4$$