

Name: \_\_\_\_\_  
MATH 101  
Spring 2022  
HW 11: Due 04/12

*“When you are dissatisfied and would  
like to go back to youth, think of  
Algebra”*

*– Will Rogers*

**Problem 1.** (10pt) Determine whether  $(x, y) = (5, -2)$  is a solution to the following system of equations:

$$2x + 6y = -2$$

$$3x - 2y = 11$$

**Problem 2.** (10pt) Use substitution to solve the following system of equations:

$$3x - 5y = -29$$

$$2x - y = -10$$

**Problem 3.** (10pt) Use elimination to solve the following system of equations:

$$5x + 6y = 4$$

$$4x - 3y = 11$$

**Problem 4.** (10pt) Determine whether the following system of equations has a solution:

$$-2x + 3y = 5$$

$$4x - 6y = -30$$