1. Solve using the substitution method. Show your work. If the system has no solution or an infinite number of solutions, state this.

5x + 3y = 80

2x + y = 30

2. Solve using the elimination method. Show your work. If the system has no solution or an infinite number of solutions, state this.

x - 7y = 46

2x - 7y =

3. Translate the problem into a pair of linear equations in two variables. Solve the equations using either elimination or substitution. State your answer for both variables.

The sum of two numbers is 54, and their difference is nine more than the smaller number. Find the numbers.

4. Translate the problem into a pair of linear equations in two vaiables. Solve the equations using either elimination or substitution. State your answer for the specified variable.

Ron and Kathy are ticket sellers for their class play. Ron sells student tickets for $2.00 each, and Kathy sells adult tickets for $4.50 each. If their total revenue for 364 tickets is $1175.50, then how many tickets did Ron sell?

**5.** **Translate the problem into a pair of linear equations in two vaiables. Solve the equations using either elimination or substitution. State your answer for the specified variable.**

Ellen wishes to mix candy worth $1.80 per pound with candy worth $2.40 per pound to form 48 pounds of a mixture worth $2.00 per pound. How many pounds of the more expensive candy should she use?
3x + 7y = 31
5x - 2y = -3

7. Given the pair of linear equations in two variables:

Find the x- and y-intercepts (if any) for each line. Show your work.

Plot those intercepts, and graph the two lines on the same chart. Apply elimination or substitution to find the coordinates of the point of intersection (if there are no solutions or infinite solutions, state this). Show your work.

x + y = -9

x + y = 3