1) Solve each linear system using the method of substitution. Check your answers.

a) $\ell_1: y = 3x - 4$
           $\ell_2: x + y = 8$

b) $\ell_1: x = -4y + 5$
           $\ell_2: x + 2y = 7$

c) $\ell_1: y = -2x + 3$
           $\ell_2: 4x - 3y = 1$

d) $\ell_1: 2x + 4y = 2$
           $\ell_2: x = 1 - 2y$

e) $\ell_1: x + 2y = 3$
           $\ell_2: 5x + 4y = 8$

f) $\ell_1: 6x + 5y = 7$
           $\ell_2: x - y = 3$

g) $\ell_1: 2m + n = 2$
$\ell_2: 3m - 2n = 3$

h) $\ell_1: 3a + 2b = 4$
$\ell_2: 2a + b = 6$

i) $\ell_1: 2x + y = 4$
$\ell_2: 4x - y = 2$

2) Find the point of intersection of each pair of lines.

a) $\ell_1: 2x = y + 5$
$\ell_2: 3x + y = -9$

b) $\ell_1: 4x + 2y = 7$
$\ell_2: -x - 7y = 6$

c) $\ell_1: p + 4q = 3$
$\ell_2: 5p = -2q + 3$

d) $\ell_1: a + b + 6 = 0$
$\ell_2: 2a - b - 3 = 0$

e) $\ell_1: x - 2y - 2 = 0$
$\ell_2: 3x + 4y - 16 = 0$

3) Samantha works twice as many hours per week as Adriana. Together they work a total of 39 hours in one week.

a) Write an equation to represent the information in the first sentence.

b) Write an equation to represent the information in the second sentence.

c) Use the method of substitution to find the number of hours worked by each person.

4) Ugo plays hockey and is awarded 2 points for each goal and 1 point for each assist. Last season he had a total of 86 points. He scored 17 fewer goals than assists.

a) Write a linear system to represent the information

b) Solve the system

c) What does the solution represent in the context of this question?

5) Joanne's family decides to rent a hall for her retirement party. Pin Hall charges $500 for the hall and $15 per meal. Bloom Place charges $350 for the hall and $18 per meal.

a) Write two equations to represent the information.

b) Solve the linear system to find the number of guests for which the charges are the same at both halls.