For each set of data, use the linear regression function on a graphing calculator to write a system of equations. Solve the system of equations by graphing. Explain what the x- and y-values of the solution represent for that situation.

1) The table shows the number of pairs of shoes sold by two new employees, Malak and Ali, at Ikram's shoe store. Find a linear model for each employee's sales.

Week	1	2	3	4	5
Malak	50	55	63	67	71
Ali	40	47	56	62	67

Equation 1 (Malak): _____

Equation 2 (Ali): _____

Solution: _____

Explanation:

When will Malak's and Ali's sales be the same? _____

How many sales will they have at that time? _____

2. The table below shows the annual consumption of two vegetables in the U.S.

Year	Broccoli lbs./person	Cucumbers lbs./person
1980	1.5	3.9
1985	2.6	4.4
1990	3.4	4.7
1995	4.3	5.6
1998	5.1	6.5
1999	6.5	6.8
2000	6.1	6.4

a) Find a linear model for each vegetable.

Equation 1 (Broccoli) _____

Equation 2 (Cucumbers) _____

b) Solve the system of equations.

Solution: _____

c) Write a complete sentence explaining what your solution means.

3. The table below shows the life expectancy at birth in the U.S in the years from 1970 to 2000.

Year	Men (Years)	Women (Years)
1970	67.1	74.7
1975	68.8	76.6
1980	70.0	77.4
1985	71.1	78.2
1990	71.8	78.8
1995	72.5	78.9
2000	74.3	79.7

a) Find a linear model for each life expectancy.

    Equation 1 (men) _____

    Equation 2 (women) _____

b) Solve the system of equations.

    Solution: _____

c) Write a complete sentence explaining what your solution means.

d) What do you think the life expectancy is now for men in the U.S.? For women? Justify your answers.