1) The table shows the number of gold medals won by the United States Olympic team at the Summer Olympics from 1968 through 2008.

Year	1968	1972	1976	1984	1988	1992	1996	2000	2004	2008
Number of Medals	45	33	34	83	36	37	44	38	36	36

a. Make a scatter plot of the data.

b. Interpret the scatter plot of the data based on the shape of the distribution.

The scatter has a linear association, but is not positive or negative.

c. Is it possible to predict the number of gold medals won in 2016? Explain.

35 - 39 gold medals

United States Gold Medals
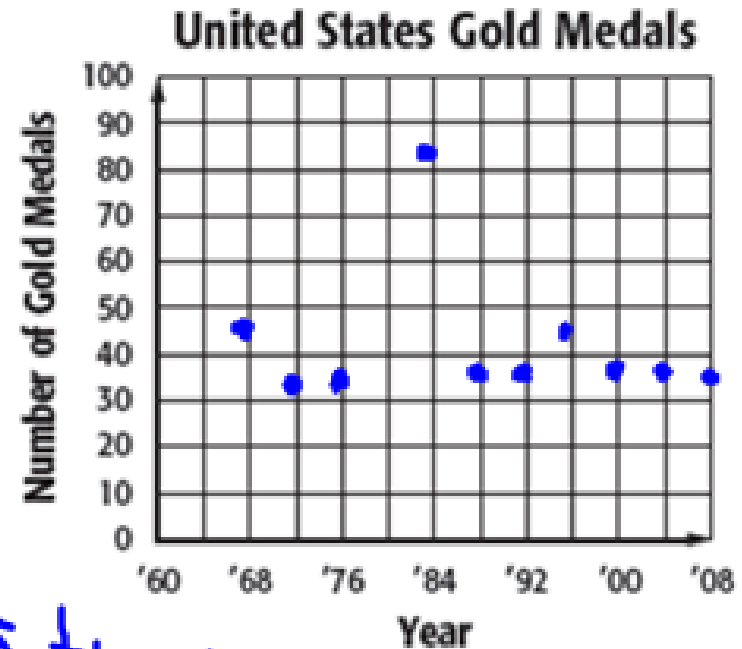
As the years increase, the gold medals stay about the same.

2) The table shows the number of people that attended a family reunion each year.

Year	1	2	3	4	5	6	7
Attendees	115	120	128	138	135	140	145

a. Construct a scatter plot of the data. Then draw a line that best represents the data.

b. Write an equation for the line of best fit.

c. Use the equation to make a conjecture about the number of people that might attend the reunion in the fifteenth year.

Number of Attendees

190
170
150
130
110
90
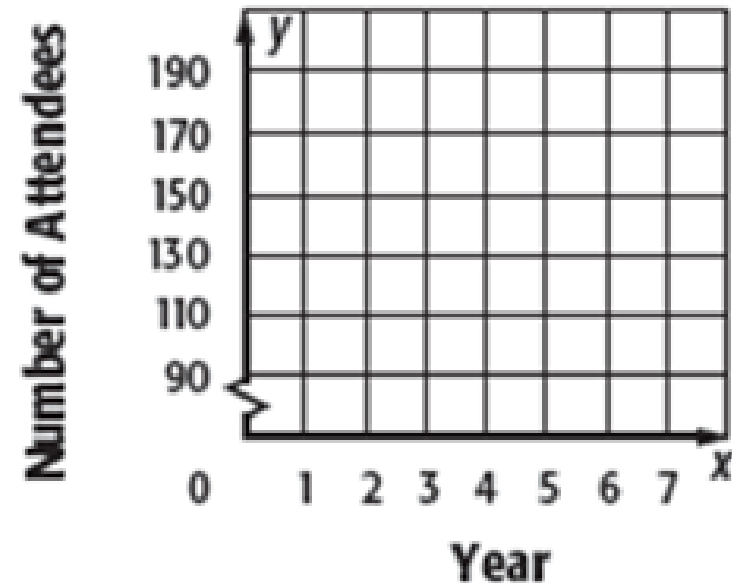
0   1   2   3   4   5   6   7   X

Year

3) The table and scatter show the membership for a fitness center in the years 2003-2010.

Years Since 2002	1	2	3	4	5	6	7	8
Membership	75	150	125	200	175	300	250	350

$y = mx + b$

A) Write an equation for the line of best fit. SHOW WORK

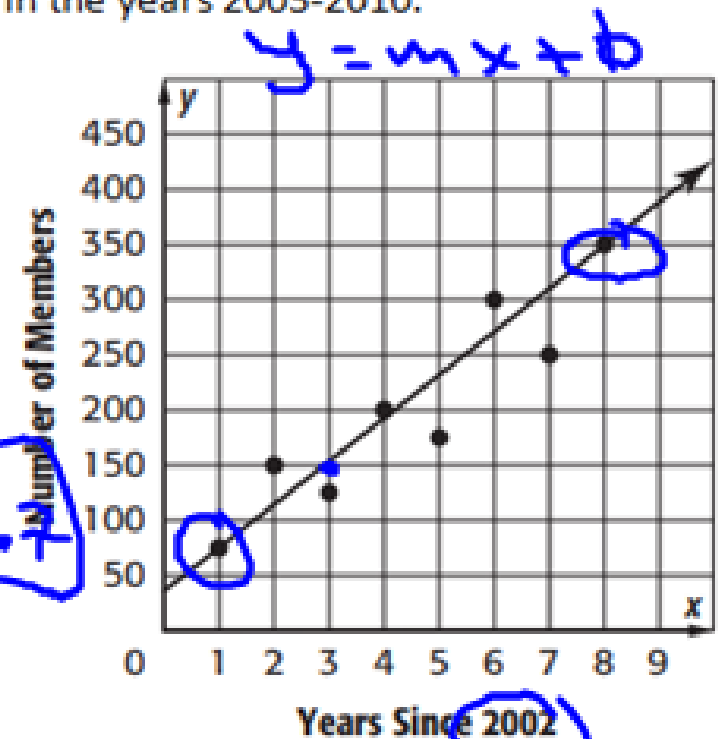$m = \dfrac{350 - 75}{8 - 1} = \dfrac{275}{7} = 39.3$

$75 = 39.3(1) + b$
$75 = 39.3 + b$
$\dfrac{-39.3 \quad -39.3}{}$

$b = 35.7$

$y = 39.3x + 35.7$

B) Use your equation to make a conjecture about how many members the fitness center will have in 2018?

$x = 16$

$y = 39.3(16) + 35.7$
$y = 628.8 + 35.7$

$y = 664.5 = 665\ members$

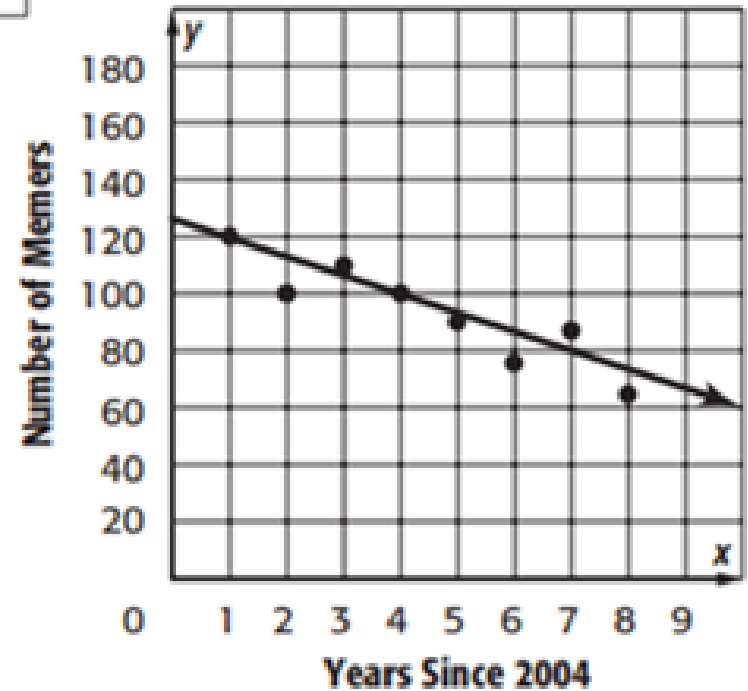C) Interpret the slope and y-intercept of the equation.

(scatter plot: Number of Members vs Years Since 2002)

4) The table and scatter plot show the membership for a savings club in the years 2005-2012.

Years Since 2004	1	2	3	4	5	6	7	8
Membership	120	100	110	100	90	75	85	65

A) Write an equation for the line of best fit. SHOW WORK

Number of Memers

Years Since 2004

B) Use your equation to make a conjecture about how many members the savings will have in 2020?

C) Interpret the slope and y-intercept of the equation.

5) Ninety people in a store were asked whether they liked jeans or khakis and whether they liked T-shirts or tank tops. Out of 25 people that liked khakis, 15 liked T-shirts. There were 55 customers that liked T-shirts.

    A) Construct a two-way table summarizing the data.

    B) Find and interpret the relative frequencies of people in the survey **by columns.**

A)

	T-Shirts	Tank Tops	Total
Jeans			
Khakis	15		25
Total	55		90

B)

	T-Shirts	Tank Tops
Jeans		
Khakis	$\frac{15}{55} = 0.27$	
Total		