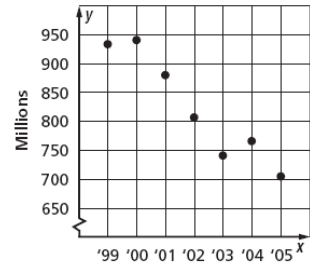


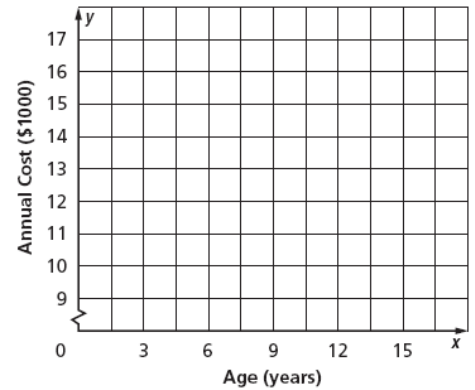
Scatter Plots and Lines of Best Fit Worksheet

1. **MUSIC** The scatter plot shows the number of CDs (in millions) that were sold from 1999 to 2005. If the trend continued, about how many CDs were sold in 2006?



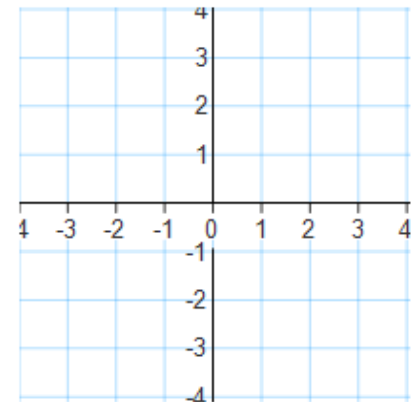
2. **FAMILY** The table below shows the predicted annual cost for a middle income family to raise a child from birth until adulthood. Draw a scatter plot and describe what relationship exists within the data.

| Cost of Raising a Child Born in 2003 | | | | | |
|--------------------------------------|--------|--------|--------|--------|--------|
| Child's Age | 3 | 6 | 9 | 12 | 15 |
| Annual Cost (\$) | 10,700 | 11,700 | 12,600 | 15,000 | 16,700 |



3. Make a scatter plot of the data in the table. Draw a line of best fit. What is the equation of the line of best fit?

| | | | | | | | | | | |
|---|----|----|----|---|---|---|----|----|----|----|
| X | -2 | -2 | -1 | 0 | 1 | 1 | 1 | 2 | 2 | 3 |
| Y | 2 | 3 | 2 | 1 | 0 | 1 | -1 | -1 | -2 | -2 |



4. **EDUCATION** The table at the right gives the number of hours spent studying for a science exam and the final exam grade.

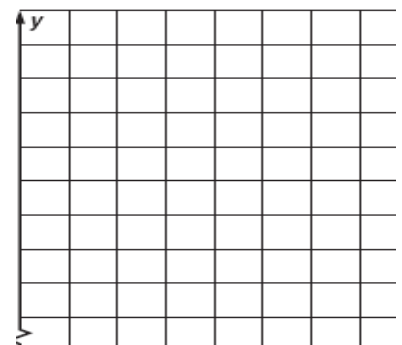
| | | | | | | | |
|-------------|----|----|----|----|----|----|----|
| Study Hours | 3 | 2 | 5 | 1 | 0 | 4 | 3 |
| Grade | 84 | 77 | 92 | 70 | 60 | 90 | 75 |

- a. Draw a scatter plot of the data and draw in the line of best fit.

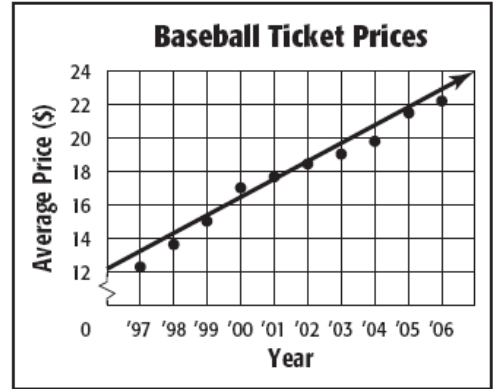
- b. What is the equation for the line of best fit?

- c. Predict the grade for a student who studied for 6 hours.

- d. Could this line go on forever? Why or why not?



5. **BASEBALL** The scatter plot shows the average price of a major-league baseball ticket from 1997 to 2006.
- a. Use the points (2001, 17.60) and (2002, 18.75) to write the slope-intercept form of equation for the line of fit shown in the scatter plot.

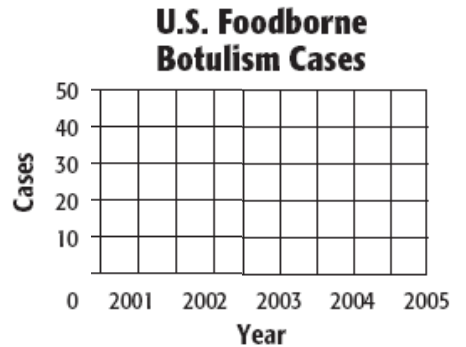


Source: Team Marketing Report, Chicago

- b. Use your equation to tell the price of a ticket in 2009. Is this extrapolation or interpolation?

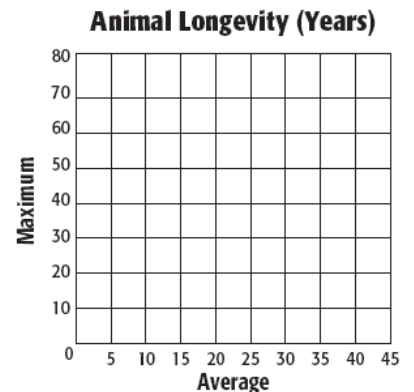
6. **DISEASE** The table shows the number of cases of Foodborne Botulism in the United States for the years 2001 to 2005.
- a. Draw a scatter plot and determine, what relationship, if any, exists in the data.
- b. Draw a line of fit for the scatter plot, and write the slope-intercept form of an equation for the line of fit.

| U.S. Foodborne Botulism Cases | | | | | |
|-------------------------------|------|------|------|------|------|
| Year | 2001 | 2002 | 2003 | 2004 | 2005 |
| Cases | 39 | 28 | 20 | 16 | 18 |



7. **ZOOS** The table shows the average and maximum longevity of various animals in captivity.
- a. Draw a scatter plot and determine, what relationship, if any, exists in the data.

| Longevity (years) | | | | | | | | |
|-------------------|----|----|----|----|----|----|----|----|
| Avg. | 12 | 25 | 15 | 8 | 35 | 40 | 41 | 20 |
| Max. | 47 | 50 | 40 | 20 | 70 | 77 | 61 | 54 |



- b. Draw a line of fit for the scatter plot, and write the slope-intercept form of an equation for the line of fit.
- c. Predict the maximum longevity for an animal with an average longevity of 33 years. Is this an example of Extrapolation or Interpolation?