Section 4.3
Lines of Best Fit

Name: $\qquad$

1. The scatter plot shows the number of CDs (in millions) that were sold from 1999 to 2005.
a. Write the equation for a line of best fit.
b. If the trend continued, about how many CDs were sold in 2006?

2. The table below shows the predicted annual cost for a middle income family to raise a child from birth until adulthood.

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

a. Write the equation for a line of best fit.
b. Describe what relationship exists within the data.

3. Make a scatter plot of the data in the table.

| X | -2 | -2 | -1 | 0 | 1 | 1 | 1 | 2 | 2 | 3 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| y | 2 | 3 | 2 | 1 | 0 | 1 | -1 | -1 | -2 | -2 |

a. What is the equation of the line of best fit?
b. Describe what relationship exists within the data.

$\qquad$
4. The scatter plot shows the average price of a major-league baseball ticket from 1997 to 2006.
a. What is the equation of the line of best fit?


Source: Team Marketing Report, Chicago
b. Use your equation to tell the price of a ticket in 2009.
5. The table shows the average and maximum longevity of various animals in captivity.

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

a. What is the equation of the line of best fit?

b. Predict the maximum longevity for an animal with an average longevity of 33 years.

