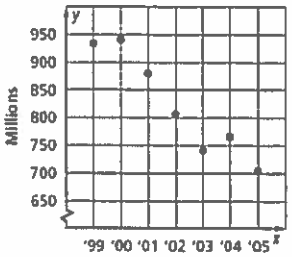
Name _____Hour_____ Date_____

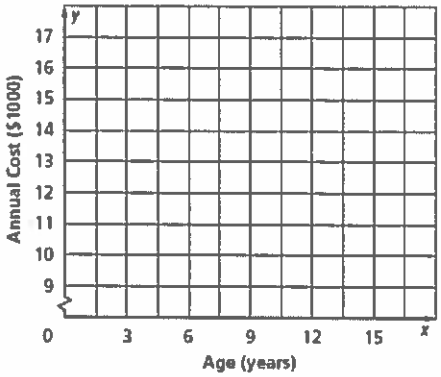
Scatter Plots and Lines of Best Fit Worksheet

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?



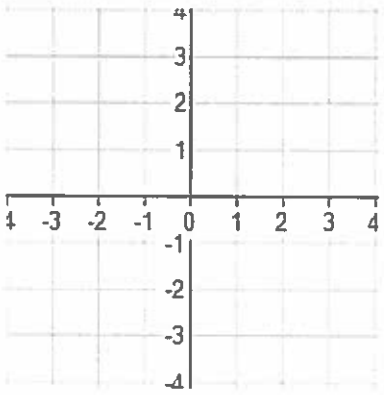
2. **FAMILY** The table below shows the predicted annual cost for a middle income family to raise a child from birth until adulthood. Draw a scatter plot and describe what relationship exists within the data.

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?

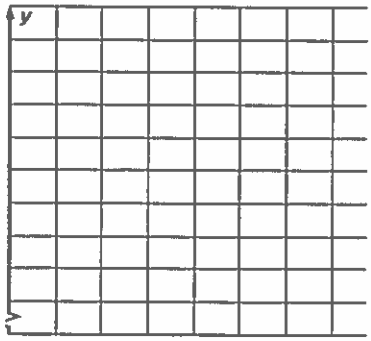
X	-2	-2	-1	0	1	1	1	2	2	3
Y	2	3	2	1	0	1	-1	-1	-2	-2



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.



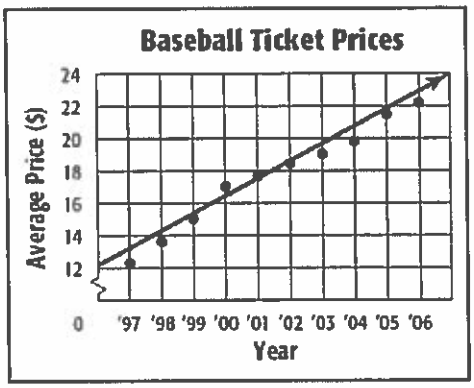
   b. What is the equation for the line of best fit?

   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

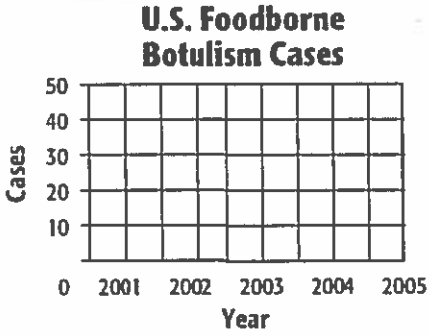
   b. Use your equation to tell the price of a ticket in 2009. [illegible]

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



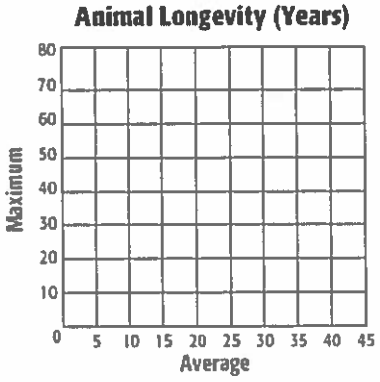
7. **ZOOS** The table shows the average and maximum longevity of various animals in captivity.

   a. Draw a scatter plot and determine, what relationship, if any, exists in the data.

   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. [illegible]

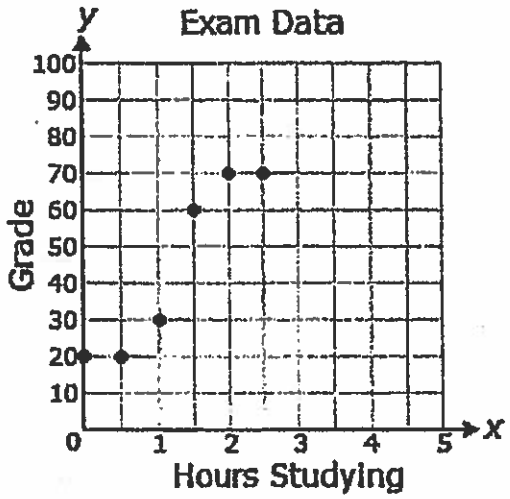
Longevity (years)								
Avg.	12	25	15	8	35	40	41	20
Max.	47	50	40	20	70	77	61	54



Lines of Best Fit

$y = mx + b$ m = slope b = y-intercept

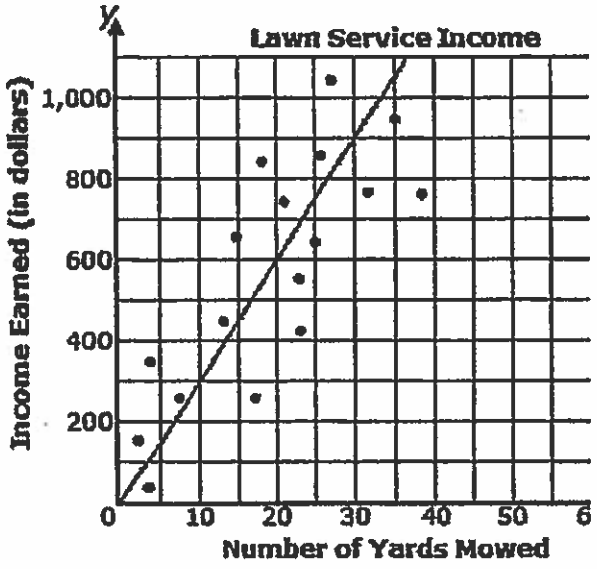
1. A teacher made the following graph showing the number of hours that a student studied for an exam versus their exam grade.



Predict the grade of a student if they studied for 4 hours.

- A. 105
- B. 100
- C. 110
- D. 90

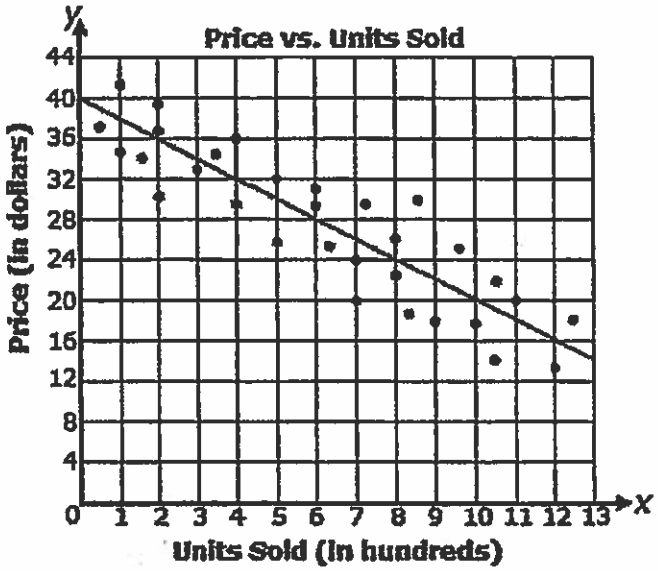
2.



The graph above shows a line of best fit for data collected on the amount of income earned by lawn companies in relation to the number of yards mowed. What is the equation of the line of best fit?

- A. $y = 30x$
- B. $y = \frac{3}{2}x + 300$
- C. $y = \frac{3}{2}x$
- D. $y = 30x + 300$

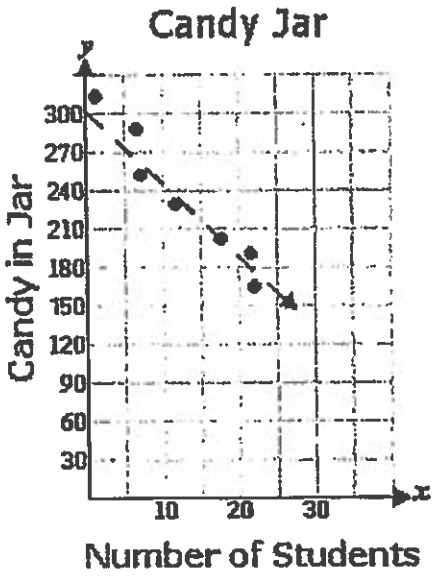
3.



The graph above shows a line of best fit for data collected on the price of a unit in relation to the number of units sold. What is the equation of the line of best fit?

- A. $y = -\frac{1}{50}x + 40$
- B. $y = -\frac{1}{2}x + 40$
- C. $y = -\frac{1}{50}x + 10$
- D. $y = -\frac{1}{2}x + 10$

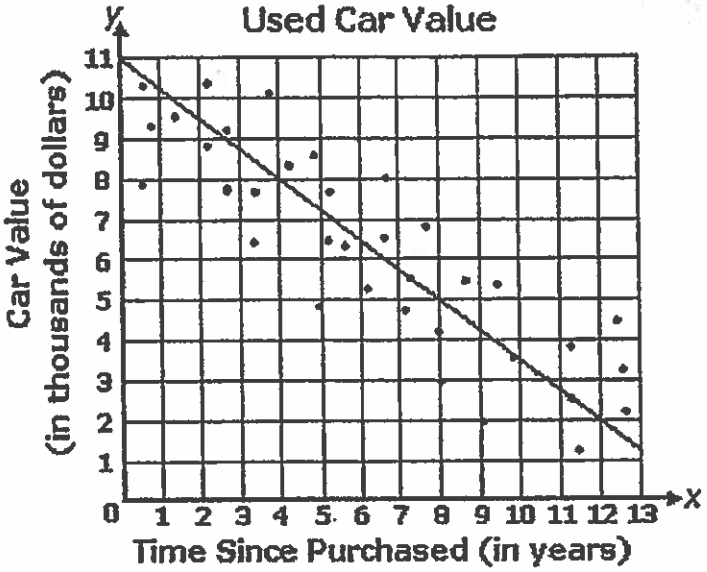
4. Mrs. Moises, the school counselor, keeps a candy jar in her office for students. During one week, she kept count of how many students came to visit her and the number of candies in the jar, as shown in the scatter plot below.



Based on the trend line, what is the best prediction for the number of candies in the jar when 30 students visit her?

- A. 90
- B. 150
- C. 135
- D. 180

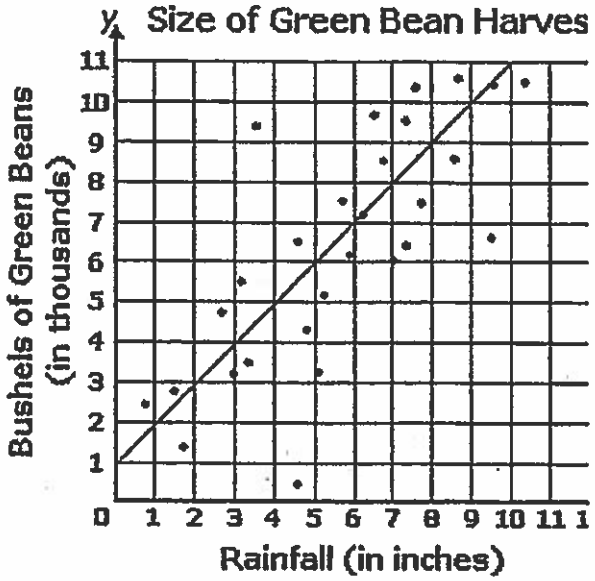
5.



The graph above shows a line of best fit for data collected on the value of used cars in relation to the number of years since they were purchased. What is the equation of the line of best fit?

- A. $y = -\frac{3}{4}x + 11{,}000$
- B. $y = -750x + 11{,}000$
- C. $y = \frac{3}{4}x + 11$
- D. $y = 750x + 9{,}500$

6.



The graph above shows a line of best fit for data collected on the size of green bean harvests in relation to the amount of rainfall. What is the equation of the line of best fit?

- O A. $y = x + 1$
- O B. $y = x + 1{,}000$
- O C. $y = 1{,}000x + 1{,}000$
- O D. $y = 1{,}000x + 1$

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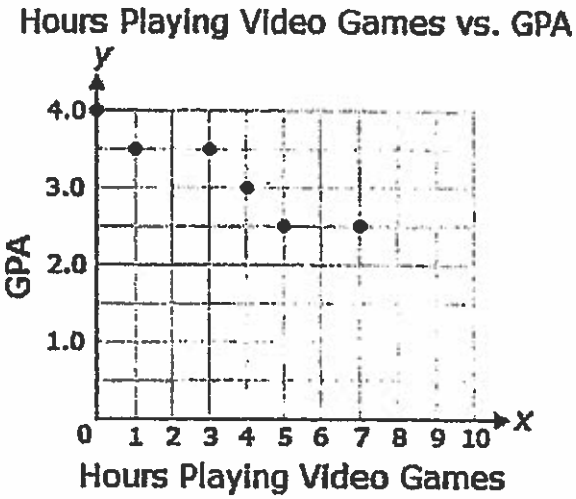
7. A teacher made the following graph showing the number of hours her students spend playing video games per week versus their grade point average.



Predict the GPA of a student who plays video games for 10 hours every week.

- O A. 1.5
- O B. 2.5
- O C. 1.0
- O D. 3.0

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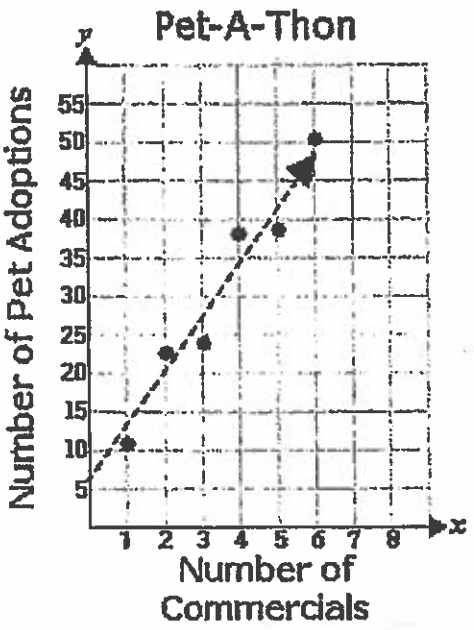
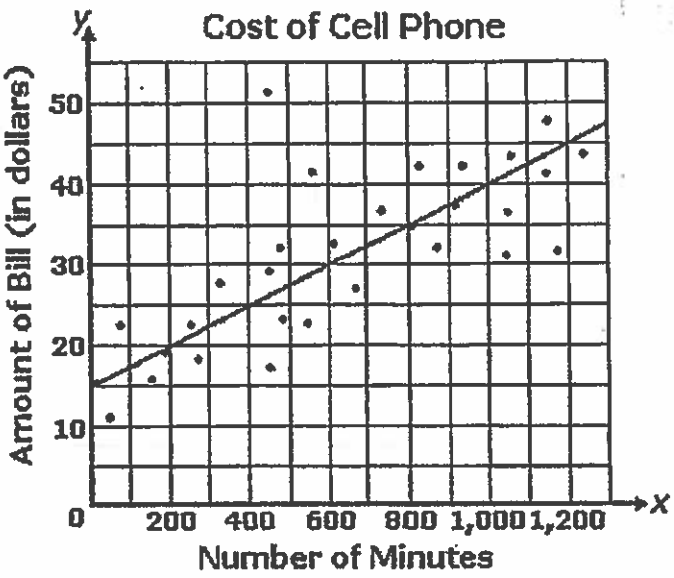
8. The local animal shelter showed commercials about adopting pets on one of the local television stations. The scatter plot below shows the number of pet adoptions and the number of commercials aired over a one week period.



Based on the trend line, which is the expected number of adoptions if seven commercials aired?

- A. 40
- B. 50
- C. 60
- D. 55

9.



The graph above shows a line of best fit for data collected on the amounts of cell phone bills in relation to the number of minutes used. What is the equation of the line of best fit?

- A. $y = \frac{1}{2}x + 15$
- B. $y = \frac{1}{2}x + 3$
- C. $y = \frac{1}{40}x$
- D. $y = \frac{1}{40}x + 15$