7. 2 Modeling With Linear Equations

M. Goodroe - Quantitative Skills and Reasoning

Key Terms:

Point
Line
Slope (Rate of Change)
Slope-Intercept Form

Name:_____

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Find a linear equation whose graph has the indicated slope and passes through the given point.

1) slope 5, point (2, 6)

2) slope -6, point (-2, -6)

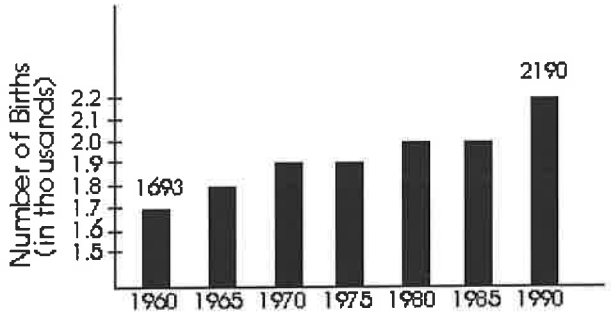
Find a linear equation whose graph passes through the given points. Write the equation in slope-intercept form.

3) (6, 8) and (0, -3)

4) (-6, 2) and (2, 7)

Solve the problem.

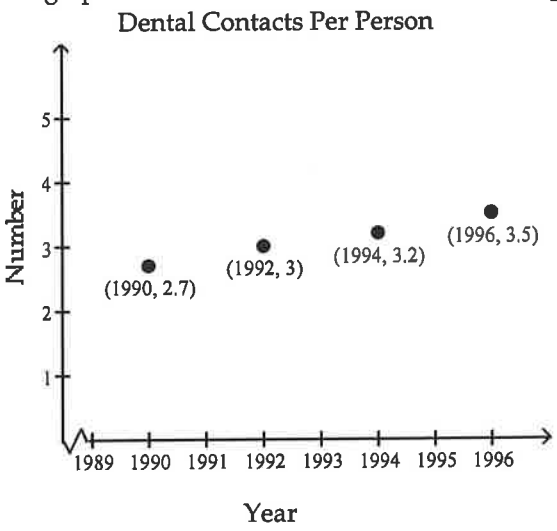
5) The number of births in County A has been increasing in recent years. Use the information given on the bar graph for the years 1960 and 1990, letting x = 0 represent the year 1960 and letting y represent the number of births.



6) Suppose that a sales person observes that if an item is priced at $7 per item then 5 items are sold. If 3 items are sold for $9 per item then find an equation to model the number y of items sold for x dollars per item.

7) In 1984, the life expectancy for a female born in the United States was 75.7 years and was increasing at a rate of 0.25 years per year. Assume that this rate of increase remains constant. Using an appropriate linear equation as a model, estimate the life expectancy of a female born in the U.S. in 1998.

8) The graph shows the increase in dental contacts per person from 1990 to 1998.



Assume that the rate of increase continues for the next several years. Using the average yearly increase from 199(1996 to find a linear model, predict the number of dental contacts per person in 2008.