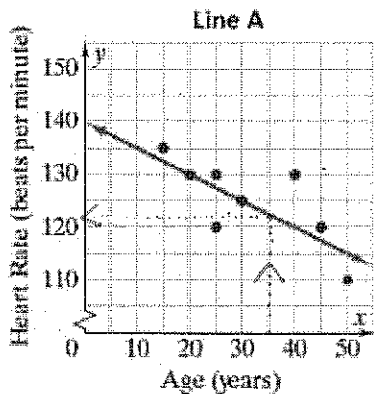


8.SP.3 Use the equation of a linear model to solve problems in the context of bivariate measurement data, interpreting the slope and intercept.

Using the line of best fit below, what would you expect the heart rate of a 35 year old to be?



- A. 130
- B. 125
- C. 122
- D. 120

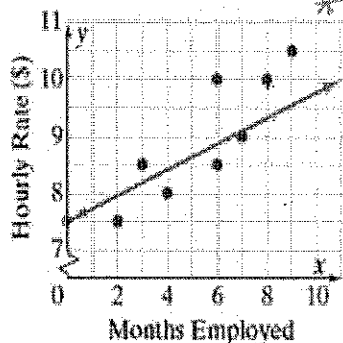
For a few months, Dexter recorded the amounts, in fluid ounces, of laundry detergent remaining, y , after he and his family washed x loads of laundry. The equation for the line of best fit for the data is shown below.

$$y = -1.6x + 50$$

Which statement correctly describes the slope in this equation?

- A. The bottle Dexter's family buys holds about 50 oz of detergent. (this is y-int.)
- B. For each load of laundry, Dexter's family uses about 1.6 oz of detergent.
- C. With 50 oz. of detergent, Dexter's family can wash about 1.6 loads of laundry.
- D. With 1.6 bottles of laundry detergent, Dexter's family can wash about 50 loads of laundry.

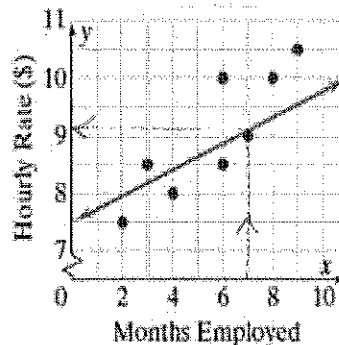
What does the y intercept represent in the graph below?



* remember y int is y value (\$) when $x=0$ months employed.

- A. The number of months the average employee has worked for the company.
- B. The starting number of hours an employee gets each week.
- C. The starting hourly rate of an employee.
- D. The average hourly rate of an employee.

If Sam has been working at this company for 7 months, how much would you expect him to make per hour?



- A. \$8.50
- B. \$10.25
- C. \$8.25
- D. \$9.10

A researcher collected data on monthly rental charges for commercial properties. Using the data points, the researcher estimated that the equation of the line of best fit is $y=3.75x+250$, where x is the area in square feet of the rented property and y is the monthly rent in dollars.

Part A: Explain how the researcher could have estimated an equation for a line of best fit.

He could have chosen 2 points from his line of best fit & used them to write the equation.

Part B: What is the slope of the line of best fit? Explain what the slope represents in this situation.

$m = 3.75$ Since slope is $\frac{\Delta y}{\Delta x}$ (rent \$) Δ $\frac{3.75}{1}$ is slope, then it cost \$3.75 per sq. feet.

Part C: One of the commercial properties has a monthly rent of \$2,500. Substitute this amount in the line of best fit equation and then solve. Explain what your solution represents.

$$y = 3.75x + 250$$

$$2500 = 3.75x + 250$$

$$\begin{array}{r} 2500 \\ -250 \\ \hline 2250 = 3.75x \\ 3.75 \quad 3.75 \\ \hline 600 = x \end{array}$$

rent = y
 $x = 600$. If rent = 2,500, you would expect the property to have 600 sq. ft.