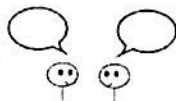


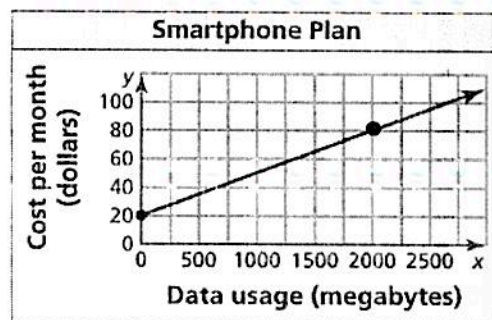
## Algebra RH

### Applications with Linear Functions

Let's work together.



- 1) (a) What is the  $y$ -intercept of the line? Explain its meaning in the context of the problem.



- (b) Find the slope of the line. Explain its meaning in the context of the problem.

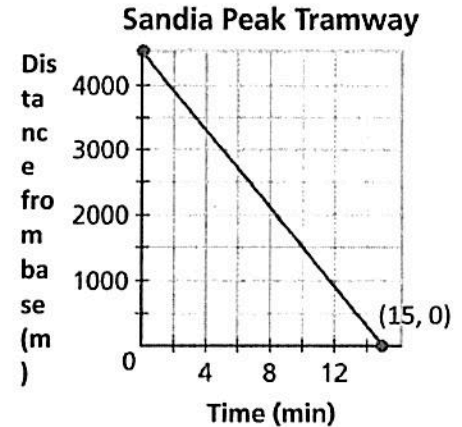
- 2) A band is performing at an auditorium for a fee of \$1500. In addition to this fee, the band receives \$6 of each ticket sold.

a) Write an equation that represents the band's revenue ( $y$ ) when  $x$  tickets are sold.

b) The band needs \$5000 for new equipment. How many tickets must be sold for the band to earn enough money to buy the new equipment?

- 3) The Sandia Peak Tramway in Albuquerque, New Mexico travels a distance of about 4500 meters to the top of Sandia peak. The graph shows the tram's distance from the summit to the base.

- a) Identify the x and y-intercepts. Explain their meaning in the context of the situation.



- b) Write an equation that models the relationship displayed by the graph.

- c) Identify the rate of change in your equation. Explain its meaning.

- d) State the domain and range of the graph.

- 4) A recreation department bought bottled water to sell at a fair. When the fair began at 10:00 am, they had 280 bottles. At 6:00 pm they had run out. Calculate the average rate of bottles sold per hour.

- 5) The tables below represent the amount of hours worked and the amount of money earned by two different employees in the same company over one year.

**Employee # 1**

x Hours Worked	y Money Earned
0	0
1000	20,000
2000	40,000

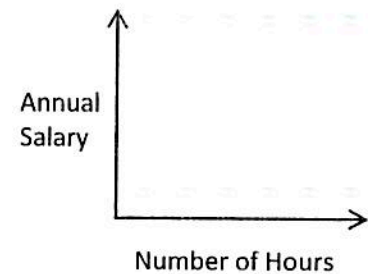
**Employee # 2**

x Hours Worked	y Money Earned
0	50,000
1000	50,000
2000	50,000

- a) Write an equation for each employee that shows the relationship between the annual salary ( $y$ ) and the number of hours worked ( $x$ ).

- b) Sketch the relationships and compare the graphs.

Employee #1



Employee #2

