

Slope - Day 8  
Assignment

Name \_\_\_\_\_  
Date \_\_\_\_\_ Period \_\_\_\_\_

The hardware store sells batteries individually. Five batteries cost \$4.50, and seven batteries cost \$6.30.

1. Write an equation for the relationship between the cost and the number of batteries.
2. Find the slope and the y-intercept for the equation, and explain what this information means in the context of this problem.
3. How much do eight batteries cost?
4. Bart spent \$10.80 on batteries. How many batteries did he buy?

You can figure how far away lightning is by counting the number of seconds between a flash of lightning and the following clap of thunder. The speed of sound is about 1100 feet per second. Thus, if you hear thunder 3 seconds after you see lightning, the lightning is about  $3 \times 1100 = 3300$  feet away.

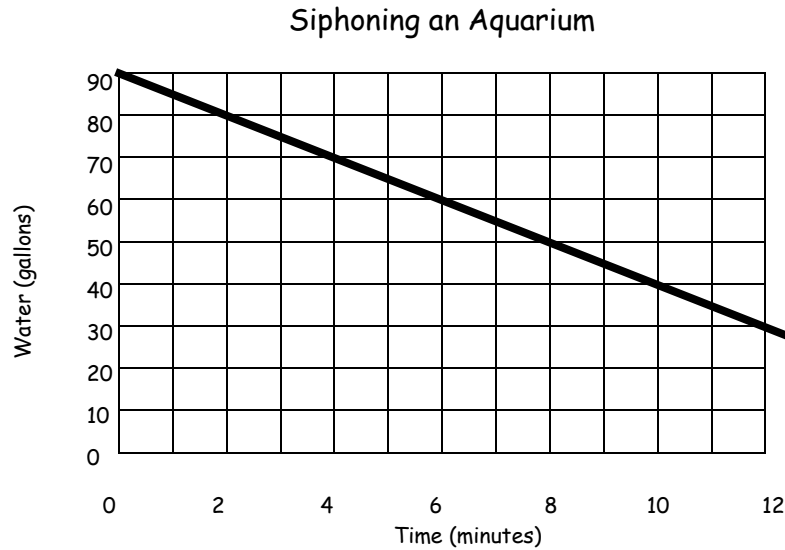
5. Write an equation you can use to predict the distance lightning is from you by using the number of seconds between the lightning and the thunder.
6. Find the slope and the y-intercept for the equation and explain what this information means in the context of this problem.
7. If lightning hits 1 mile away, how many seconds will elapse before you hear the thunder? (1 mile = 5280 feet)

8. If you hear the thunder  $6\frac{1}{2}$  seconds after you see the lightning, how far away did the lightning hit?

On Saturday's Jim likes to go to the mall to play video games or pinball. Round-trip bus fare to and from the mall is \$1.80. Jim spends \$0.50 for each video or pinball game.

9. Write an equation for the amount of money,  $M$ , it costs Jim to go to the mall and play  $n$  video or pinball games.
10. What is the slope of the line your equation represents? What does the slope tell you about this situation?
11. What is the y-intercept of this line? What does the y-intercept tell you about the situation?
12. How much will it cost Jim to travel to the mall and play 8 video or pinball games?
13. If Jim saved \$6.75, how many video or pinball games can he play at the mall?

Aqua Man is siphoning all the water from a full aquarium to clean it. The graph below shows the amount of water left in the aquarium as Aqua Man siphons the water.



14. How much water was in the aquarium when it was full? Explain your reasoning.
15. How much water does the siphon remove from the aquarium in 1 minute? Explain your reasoning.
16. Write an equation that shows the amount of water,  $G$ , left in the aquarium after  $t$  minutes.
17. How long will it take the siphon to remove all of the water from the aquarium? Explain your reasoning.