## TRS 92: Writing Equations

1. The relationship between the number of payments $\boldsymbol{P}$ made and the balance $\boldsymbol{B}$ (in dollars) of a $\$ 10,800$ car loan can be represented by the following table.

| P: Number <br> of Monthly <br> Payments | B: Amount <br> of Loan <br> Balance (\$) |
| :---: | :---: |
| 0 | 10,800 |
| 2 | 10,200 |
| 4 | 9,600 |
| 6 | 9,000 |

a. Based on the table, write a linear equation for the amount of the car loan balance $\boldsymbol{B}$ as a function of the number of monthly payments $\boldsymbol{P}$. Use function notation and show your work.
b. What is the slope of the equation you wrote in part a? Explain this value in the context of the problem.
c. What is this vertical intercept of the equation you wrote in part a? Explain this in the context of the problem.
2. The Saucy Soda Factory is currently experimenting with a new pickle flavored drink. Researchers tested the drink on ordinary consumers. Initially, there were 522.4 gallons of pickle drink. After 26 days of testing, there were 301.4 gallons left.
a. Define the independent and dependent variables.
b. Write the linear equation that models this situation, using function notation. Show your work.

