Mathematics Grade 8 Unit 06 – Rubric 2

Grade/Subject/(Course)
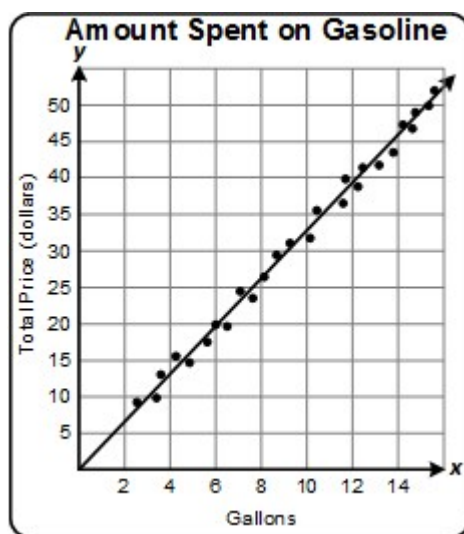Grade 8 / Mathematics

Course Version

Performance Assessment(s)

Mathematics Grade 8 Unit 06 PA 02
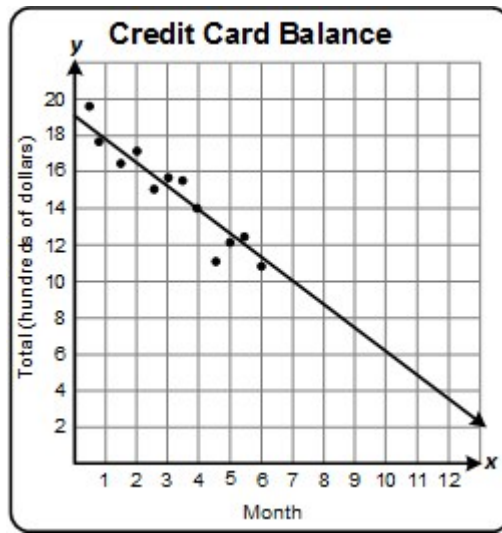
Analyze the problem situation(s) described below. Organize and record your work for each of the following tasks. Using precise mathematical language, justify and explain each solution process.

1. Audie constructed a scatterplot to display the amount she spent on gasoline for the past 6 months. Sometimes she would put a few gallons of gas in her car, and sometimes she would fill her tank completely. Audie drew a trend line to approximate the relationship between the total price spent on gasoline and the number of gallons of gas she put in her car.

   a. Describe the trend of the graph as positive, negative, or no trend.

   b. Use the graph and trend line to write an equation in the form $y = mx + b$ to represent the linear relationship between total price spent on gasoline and the number of gallons of gas Audie put in her car.

   c. Describe the meaning of the slope of the trend line in terms of a unit rate that represents the relationship between the total price spent on gasoline and the number of gallons of gas Audie put in her car.

   d. Use the trend line to predict the amount Audie would pay for 3 gallons of gas, 12 gallons of gas, and 16 gallons of gas.

2. Audie used her credit card to pay for her gasoline and other purchases. She usually makes bimonthly payments large enough to pay off any recent charges and still decrease her overall credit card balance. Her credit card company provided her with a scatterplot displaying her monthly balance for January (month 1) through June. Audie added a trend line to the graph to approximate the relationship between her monthly credit card balance and the month.

Credit Card Balance

a. Describe the trend of the graph as positive, negative, or no trend.

b. Use the graph and trend line to write an equation in the form $y = mx + b$ to represent the linear relationship between Audie's monthly credit card balance and the month.

c. Use the trend line to predict Audie's credit card balance in July, September, and the following January assuming she continues her spending and payment habits.