P.S. #4.7 – Applications of Linear Equations

Name: _____ Class: _____

1.) A limo company initially charges a $90 fee and also charges $30 per hour.

a.) Write an equation for the total cost, *y*, of renting the limo for *x* hours, including the initial fee.

b.) What is the *y*-intercept in your equation? _____

Explain what information the *y*-intercept tells you about this situation.

c.) What is the slope of the line in your equation? _____

Explain what information the slope tells you about this situation.

2.) A linear equation passes through the points (8,151) and (12,199). Find the equation of this line in slope-intercept form.

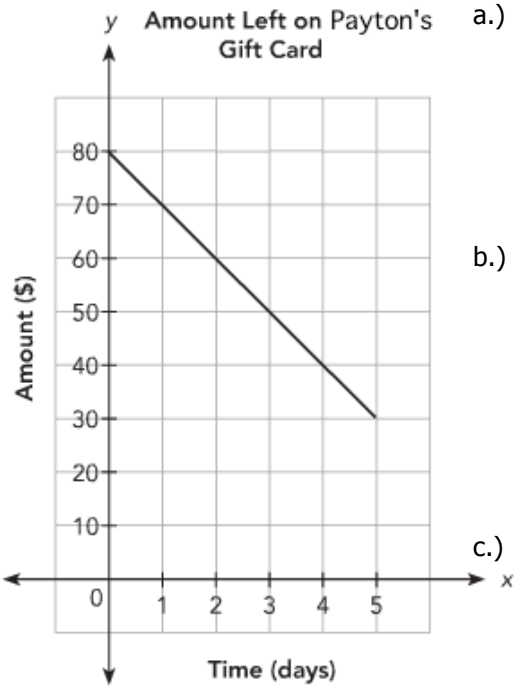
3.) A summer day camp charges a registration fee, plus a daily amount. Maddy's fee for 9 days is $417 and AnaLisa's fee for 3 days is $189. Write an equation to represent the cost for the camp program, *c*, based on the number of days attended, *n*. Then use your equation to find the cost of attending the camp for 15 days.

4.) You want to go on a skiing trip with a group of friends. The group rate charges a base price plus an amount per person. You are told that 5 people will cost $475 while 8 people will cost $670.

a.) Write an equation for the price of a group trip, using ***n*** for the number of people and ***c*** for the cost of the trip.

b.) Use your equation to find the cost of the trip for 20 people.

5.) Payton and Carly visit Star Café every day and they pay for the items using a gift card. The amount, y dollars, on Carly's gift card after x days is given by the equation $y = 100 - 19x$. The graph shows the amount on Payton's gift card over x days.



a.) Write an equation for the amount on Payton's gift card.

b.) Using your answer in a, whose gift card has a higher initial amount? Explain how you know.

c.) Using your answer in a, who spends more each day? Explain how you know.