Two Points Problems

1. DANCE LESSONS The cost for 7 dance lessons is $82. The cost for 11 lessons is $122. Write a linear equation in slope intercept form to find the total cost $C$ for $L$ lessons. Then use the equation to find the cost of 4 lessons.

2. WEATHER It is 76°F at the 6000-foot level of a mountain, and 49°F at the 12,000-foot level of the mountain. Write a linear equation in slope intercept form to find the temperature $T$ at an elevation $x$ on the mountain, where $x$ is in thousands of feet.

Point and a Slope Problems

1. There is a set daily fee for renting a moving truck, plus a charge of $0.50 per mile driven. It costs $64 to rent the truck on a day when it is driven 48 miles.
   a. Write the point-slope form of an equation to find the total charge $y$ for any number of miles $x$ for a one-day rental.
   b. Write the equation in slope-intercept form.
   c. What is the daily fee? Answer in a complete sentence.

Slope and y-int Problems

1. A video store charges $10 for a rental card plus $2 per rental.
   a. Write an equation in slope-intercept form for the total cost $c$ of buying a rental card and renting $m$ movies.
   b. Graph the equation.
   c. Find the cost of buying a rental card and 6 movies. Answer in a complete sentence.

2. A computer repair bill was $225. This included $75 for parts and $50 per hour of labor. Write an equation to calculate the number of hours of labor, then calculate the number of hours.
Standard Form Problems

1. A 100-point test has \( x \) questions worth 2 points apiece and \( y \) questions worth 4 points apiece.
   
   a. Define variables \( x \) ________________ and \( y \) ________________.
   
   b. Write an equation in standard form that describes all possible numbers of questions that may be on the test.
   
   c. If you have 24 questions worth 4 points apiece, how many questions will be worth 2 points apiece?

2. It will take 20 points exactly to make the playoffs, the hockey team coach told the players. “We get 2 points for a win and 1 point for a tie.”
   
   a. Define variables.
   
   b. Write an equation in standard form to model this situation.
   
   c. If the team wins 7 games, how many tie games will need to occur to make the playoffs?
Solutions

Two points Problems

1. \( C = 10L + 12 \); Four lessons will cost $52.

2. \( T = -\frac{9}{2}x + 103 \)

Point and a Slope Problems

1. a. \( y - 64 = .5(x - 48) \)  
b. \( y = .50x + 40 \)  
c. The daily fee is $40.

Slope and y-Intercept Problems

1. a. \( c = 2m + 10 \)  
b. graph  
c. The cost would be $22.

2. \( 225 = 75 + 50x \); The number of hours of labor is 3 hours.

Standard Form Problems

1. a. \( x \) represents the number of 2pt problems, \( y \) represents the number of 4pt problems  
b. \( 2x + 4y = 100 \)  
c. Only 2 question will be worth 2 points.

2. a. \( w \) represents the number of wins, \( t \) represents the number of tie games  
b. \( 2w + t = 20 \)  
c. The team will need 6 ties to get exactly 20 points.