

Relax. You have done problems like these before. Even if these problems look a bit different, just do what you can. If you're not sure of something, please ask! You may use your calculator. Please show all of your work and write down as many steps as you can. Don't spend too much time on any one problem. Please leave the following grading key blank for me to use. Do well. And remember, ask me if you're not sure about something.

Problems	1	2	3	4	Total		Grade
Points						%	
Out of	16	16	6	12	50		

1. The local burger joint by my house had a promotion this August. Typically a double cheeseburger costs \$2.65. Depending on the high temperature for the day, they would reduce the price of the double cheeseburger. They reduced the price by \$0.01 for each degree in the temperature. For example, if the high temperature was 80 degrees Fahrenheit, they would decrease the price by \$0.80, so the double cheeseburger would cost \$1.85.

(a) Identify and name the variables in the story and state their units.

(b) Which variable is independent and which is dependent?

(c) Make a table showing the price of a cheeseburger when the temperature is 65 degrees, 75 degrees, and 90 degrees.

(d) Is the function increasing or decreasing?

2. The table shows the cost for printing invitations for my friend's wedding last summer.

I	10	50	125	200
C	30	100	150	200

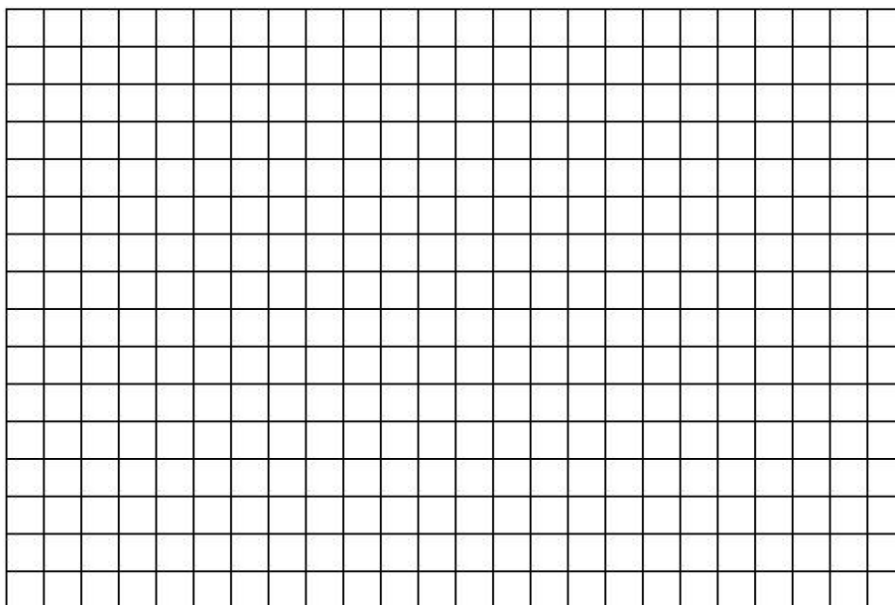
In the table, I = number of invitations ordered and C = total printing cost (\$).

- (a) What is the cost for ordering 50 invitations?

Don't forget the units.

- (b) Approximately what is the cost for ordering 150 invitations?

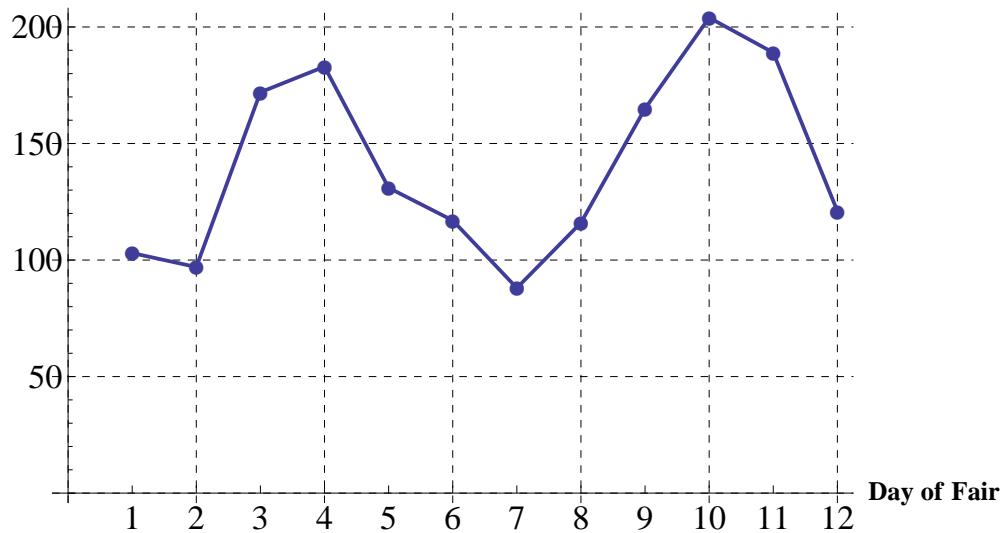
- (c) Draw a graph illustrating this information. *Be sure your axes are labeled and evenly scaled. Plot the points given and sketch in a smooth line or curve connecting them.*



- (d) Does your answer to part b agree with your graph? (Yes or no) If no, what would a better answer be?

3. The 2008 Minnesota State Fair was very well attended. The graph below shows the daily attendance for each day of the fair.

2008 Attendance (thousands of people)



- (a) What was the approximate attendance for the second day of the fair?
- (b) For how many days was the attendance greater than 150,000 people?
- (c) In that year the State Fair began on a Thursday. What do you think causes the attendance to peak for a given day? Please write a sentence explaining your answer.

4. The Preakness Stakes is the second race in horse racing annual Triple Crown. In the 2009 Preakness Stakes, the horse Rachel Alexandra won with a time of 1 minute and 55.08 seconds.

(a) Convert this time into decimal minutes.

(b) The Preakness Stakes track is exactly 9.5 furlongs. The furlong is an old measurement from medieval times. Hence the horse's speed was 4.95 furlongs per minute, as you can check. How fast is that speed in miles per hour? *Use $1 \text{ furlong} = 660 \text{ feet}$ and $1 \text{ mile} = 5,280 \text{ feet}$.*