

## Instructions for STAT 1220 Problem Sets

Each week a problem set consisting of 10 problems is assigned.

Five of the problems will be selected by the grader to be graded (the same five problems on everyone's paper).

Each problem that is graded is worth up to 5 points. Grades are assigned according to the following scheme:

5: perfect or near perfect

3: not perfect, because of either errors or incorrect presentation

1: terrible

In short: 5 for perfect or near perfect, 1 for awful, and 3 for everything in between. Of course, if a problem is not attempted, the score is 0; the grader will write down the number of the problem to indicate that it was one of the ones graded, and write a 0 in the margin next to it.

Thus every problem set is worth 25 points in all.

On any problem that is graded, the grader will write the score (5, 3, or 1) in the left margin next to the solution, so that you will know which ones were graded. A very brief note as to what is wrong if the score is a 3 might also be present. At the top of the first sheet the total score will be written as a proportion of 25, for example 23/25 or 17/25.

A problem merits full credit (5 points) if the final answer and all intermediate steps leading up to it are correct, and if the solution is complete and presented in a logical, well-organized fashion. Intermediate steps in computations must be included. Steps in the solution should appear in the order in which they logically are derived, so that the grader should not have to search for them, or "reconstruct" the solution from various parts scattered across the page. If a formula is used, it must be written out completely, then written with the numerical values inserted. Thus for example if the problem is to find the mean of 1, 2, and 3, a correct solution is

$$\bar{x} = \frac{\sum x}{n} = \frac{1 + 2 + 3}{3} = 2$$

or

$$\bar{x} = \frac{\sum x}{n} = \frac{6}{3} = 2$$

but not

$$\bar{x} = \frac{6}{3} = 2$$

and certainly not

$$\bar{x} = 2.$$

See the examples given on the web page for this class.

Work must be written neatly and legibly. If the grader has trouble reading it, then he will award a 3 or a 1, whichever is appropriate.

*Very important point:*

When you work a problem, imagine that a classmate, who is intelligent but does not know much about statistics, has asked you how to work this kind of problem. In such a situation, your goal would not be to get the answer; your goal would be to show your classmate, *using this particular problem as an example*, how this kind of problem is done. Thus you would have to explain, preferably briefly, how you're working the problem, what formulas you're using, and where the numbers you're

using are coming from. If you keep this idea in mind when you're writing up your solutions to the problems on the problem sets, then you will automatically provide the correct level of detail.

Your solutions must be submitted on  $8\frac{1}{2} \times 11$  inch paper, lined or unlined, any color. You may write on both sides of each sheet or on only one side of each sheet. Problem solutions must be presented in the order in which the problems are listed in the assignment. They must be written in order vertically down the page, not side by side. Put the first problem at the top of the page, the next problem below it, the next below it, and so on. Thus there will be a left margin next to each solution, where the grader can put the scores on the problems that are graded, and add them up easily. If a problem that is to be graded is not in the correct location, the grader will write the problem number in the position where the solution should be located and award a 0 for that problem. He has been instructed not to go searching for the solution elsewhere on the paper.

The reason that the pattern is fairly rigid and must be adhered to closely is that the grader will be grading roughly 600 problems each week; having everyone presenting problems in a uniform way will greatly facilitate his work.

Later on in the semester some multi-step problems will count double: the single problem will be worth 10 points instead of 5 points. In such a case the grader will award 10, 6, or 2 points according as the solution is perfect (or near perfect), so-so, or awful. The total possible points will still be 25. For example, he might grade three problems, each worth 5 points, plus one problem worth 10 points.

Ideally, problem sets are assigned on Wednesday afternoon by email to your university email account (name@uncc.edu), and are due by the end of class on the following Wednesday, a week later. There will be an assignment due every Wednesday on which class meets, beginning the first Wednesday after classes may be added. The goal is that they be graded and returned to you the following Monday, i.e., the class period after they are turned in.