# BRONX COMMUNITY COLLEGE of The City University of New York DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE 

Math 23 (nea)
June 12, 2006

First Exam
45 minutes

Type Name: $\qquad$

| Question: | 1 | 2 | 3 | 4 | Total |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Points: | 200 | 100 | 400 | 300 | 1000 |
| Score: |  |  |  |  |  |

1. (200 points) Find the mean, the range and the standard deviation for the following set of sample data. Round your answers to one decimal digit.

| 10 | 9 | 12 | 11 | 8 | 15 | 9 | 7 | 8 | 6 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

You may use the following table

| $x$ |  |  |  |
| :---: | :--- | :--- | :--- |
| 10 |  |  |  |
| 9 |  |  |  |
| 12 |  |  |  |
| 11 |  |  |  |
| 8 |  |  |  |
| 15 |  |  |  |
| 9 |  |  |  |
| 7 |  |  |  |
| 8 |  |  |  |
| 6 |  |  |  |
|  |  |  |  |

2. (100 points) The mean value of the scores in a Statistics exam was 85 with a standard deviation of 4 . Find an interval that contains at least $75 \%$ of the scores in that exam.
3. The following data represent the record high temperature for each of the 50 states.

| 112 | 110 | 107 | 116 | 120 | 100 | 118 | 112 | 108 | 113 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 127 | 117 | 114 | 110 | 120 | 120 | 116 | 115 | 121 | 117 |
| 134 | 118 | 118 | 113 | 105 | 118 | 122 | 117 | 120 | 110 |
| 105 | 114 | 118 | 119 | 118 | 110 | 114 | 122 | 111 | 112 |
| 109 | 105 | 106 | 104 | 114 | 112 | 109 | 110 | 111 | 114 |

(a) (300 points) Fill in the following frequency tale (use seven classes):

| Classes | Class <br> Midpoint | Tally | $f$ |
| :--- | :--- | :--- | :--- |
| $100-104$ |  |  |  |
| $105-109$ |  |  |  |
| $110-114$ |  |  |  |
| $115-119$ |  |  |  |
| $120-124$ |  |  |  |
| $125-129$ |  |  |  |
| $130-134$ |  |  |  |

(b) (100 points) Make a histogram from the data in the first part:

4. The following data represent the duration (in days) of U.S. space shuttle voyages for the years 1992-94.

$$
8,9,9,14,8,8,10,7,6,9,7,8,10,14,11,8,14,11
$$

(a) (150 points) Find the mode, the median, and the first and the third quartile.
(b) (150 points) Make a box-and-whisker plot of the above data.

