

DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE

MATH 23
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Midterm
March 22, 2007

Name: _____

Secret Name: _____

1. (200 points) Find the mean, the range, the variance, and the standard deviation of the following sample. Round your answers to two decimal digits:

84 12 27 15 40 18 33 33 14 4

You may use the following table:

x	$x - \bar{x}$	$(x - \bar{x})^2$
84		
12		
27		
15		
40		
18		
33		
33		
14		
4		

2. (50 points) The mean price of houses in a certain neighborhood is \$175,000 and the standard deviation is \$38,000. Find the price range for which at least 75% of the houses will sell.

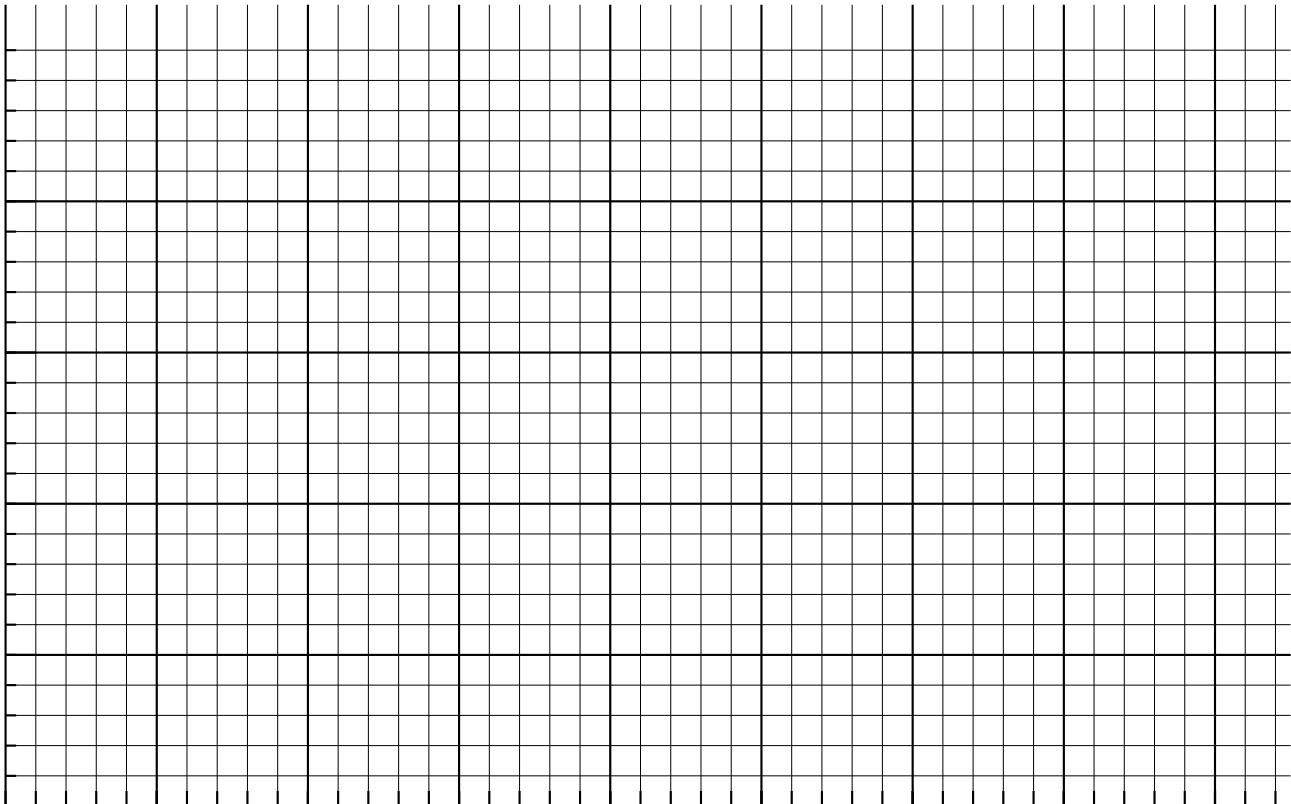
3. In a survey of 20 patients who smoked the following data was obtained. Each value represents the number of cigarettes the patient smoked per day.

10 8 6 14
 22 13 17 19
 11 9 18 14
 13 12 15 15
 5 11 16 11

(a) (200 points) Fill in the following frequency table (use five classes)

Class Limits	Class Boundaries	Tally	Class Midpoints

(b) (50 points) Make a histogram from the data in the first part:



4. A store manager recorded the number of customers that enter the store between 12:00 PM and 2:00 PM for a 14-day period. The data are shown below.

33 38 43 30 29 40 51 27 42 23 31 25 35 30

- (a) (150 points) Find the mode, the median, and the first and the third quartile and the interquartile range.

- (b) (100 points) Make a box-and-whisker plot of the above data.

5. (250 points) The following set of paired data represents the number of hours that a student studied for a statistics exam x and the grade y that they received in the exam, for a random sample of 6 students. Find the correlation coefficient r .

x	y	x^2	y^2	xy
6	82			
2	63			
1	57			
5	88			
2	68			
3	75			

Question:	1	2	3	4	5	Total
Points:	200	50	250	250	250	1000
Score:						