MATH114 COLLEGE MATH & STATISTICS 100pts TEST 4 Fall'11 p.1 INSTRUCTOR: C. MORRIS NAME:_____

5pts 1. Evaluate ${}_9P_3$

5pts 2. Suppose a committee of five people is to be chosen from a group of eight people. How many different committees can be formed ?

5pts 3. What is the probability of drawing a red ace from a standard deck of 52 cards?

5pts 4. What is the probability on a single roll of a die to get a number 2 or less?

5pts 5. Construct a frequency histogram for the following data using each individual score to set up your rectangles of the histogram.

SCORE	FREQUENCY
26	4
27	7
28	6
29	4
30	0
31	8
32	1

10pts 6. Construct a frequency histogram for the following scores on a MATH114 quiz. Use intervals of width 3 starting at 32.5. Give your histogram a title, label the axis and use class boundaries to help set up the histogram

33, 33, 34, 34, 35, 35, 35, 35, 36, 37, 38, 39, 39, 40, 40, 40, 41, 42, 42, 42, 43, 44, 45, 45, 46, 46, 46, 46, 46, 47, 47, 48, 48, 48, 49, 50, 50, 52, 53, 53

Class boundaries	Frequency
32.5-	

5pts 7. Find the median of the following data 214, 258, 215, 296, 224, 272, 281, 288, 299, 277

30pts 8. Given the following data find the measures of central tendency and dispersion asked for. Show some work even if calculator is used.

71, 77, 72, 97, 27, 27, 48, 48, 66, 56, 60

a) Mean

b) Median

c) Mode

d) Range

e) Variance

f) Standard deviation

5pts 9. Given the following chart find the Mean

x	60	90	120	150	210
f (x)	4	6	10	6	4

15pts 10. Given a normal distribution find

a) Pr (-1.87 < Z < 2.31) b) Pr (Z < 1.98) c) Pr (-1.23 < Z < 0)

10pts 11. Suppose scores on a M114 test are normally distributed with mean 78 and standard deviation 10. Find the probability that a student

a) Scores more than 67 on the test

b) Scores between 70 and 95 on the test

SOME FORMULAS YOU MAY NEED

$${}_nP_r = \frac{n!}{(n-r)!} \qquad \bar{x} = \frac{\sum fx_i}{n} \qquad s^2 = \frac{\sum (x-\bar{x})^2}{n-1}$$

$${}_nC_r = \frac{n!}{r!(n-r)!} \qquad \bar{x} = \frac{\sum x}{n} \qquad z = \frac{x-\mu}{\sigma}$$

if n is odd the median is the (n + 1) /2 ranked data point
if n is even the median is the average of the n /2 and (n/2) +1 ranked data points