

MATH 264 Homework 1

DUE TO:

October 19, BEFORE CLASS, for Section 1,
October 20, BEFORE CLASS, for Sections 2,3.

IMPORTANT

- This homework consists of 7 questions and only 3 of them will be evaluated. The questions to be evaluated will be selected randomly, and will be evaluated from each paper! So, you won't get any credit if you can't solve the randomly selected questions although you solve the remaining 4 questions.
 - Please read the question(s) carefully!
 - Show all your work. Correct answers without sufficient explanation WILL NOT get full (or partial) credit.
 - The deadline is strict! Late papers will not be accepted in ANY situation.
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QUESTIONS

1) Find the mean, the median, the mode, the range, the variance, the standard deviation, the quartiles Q_1 and Q_3 of the following sample:

41	44	11	20	47
35	39	16	26	12
19	13	42	38	13
18	49	17	14	26

2) A travel brochure lists 9 museums in the city of İstanbul. A tourist is planning to spend 3 days in Istanbul and visit 2 museums each day. In how many ways can he visit museums if the order of the museums he visited during each day, is important?

3) Consider the following two sets of data

<i>Value</i>	2	3	4	5	6	7	8	9	10	11
<i>Frequency</i>	5	3	10	10	10	10	5	1	5	1

<i>Value</i>	2	3	4	5	6	7	8	9	10	11
<i>Frequency</i>	1	1	10	15	13	13	5	1	0	1

Construct frequency distribution tables and frequency histograms for these two sets of data.

4) A sample of 450 workers received an average weekly wage of \$ 500 and the variance of the wages is \$2500.

a) At most how many workers will earn less than \$ 350 or more than \$650?

b) At least how many workers will earn between \$ 350 and \$ 650 a week?

5) A poker hand contains five cards dealt from a deck of 52. How many distinct poker hands can be dealt containing:

1. two pairs (for example, 2 kings, 2 aces, and a 3)?
2. a flush (five cards in a given suit)?
3. a straight flush (any five in sequences in a given suit, but not including ten, jack, queen, king, ace)?
4. a royal flush (ten, jack, queen, king, ace in a single suit)?

6) A class has 10 students. A history instructor wants to split these 10 students into 3 discussion groups. One group will consist of 4 students and discuss topic A . The second and third groups will discuss topics B and C respectively, and consist of 3 students each. In how many ways can the instructor form the groups?

7) Compute mean, variance and standard deviation for a sample consisting of $n = 10$ items, and having $\sum_{i=1}^n x_i^2 = 84$, $\sum_{i=1}^n x_i = 20$.