

- 1) The daily number of bad checks received by a large department store in a random sample of 10 days out of the past year were 15, 12, 17, 5, 5, 8, 13, 5, 16, and 4. Find the:
- Mean _____
 - Median _____
 - Mode _____
 - Standard Deviation _____

- 2) Find the mean, median, and standard deviation for the grouped data in the following table:
- mean _____
 - median _____
 - standard deviation _____

Library Holdings of 50 Major U.S. Universities, 1991-1992

Volumes in Millions	Number of Universities
0-2.5	4
2.5-5.0	32
5.0-7.5	10
7.5-10.0	3
10.0-12.5	1

- 3) If the probability of a person contracting influenza on exposure is .55, consider the binomial distribution for a family of 7 that has been exposed. What is the probability that
- none will get influenza? _____
 - all will get influenza? _____
 - at least two will get influenza? _____

- 4) a) What proportion of the following 21 measurements lie within 1 standard deviation of the mean? _____
- within 2 standard deviations? _____
 - within 3 standard deviations? _____
 - Construct a histogram with class interval width 1, starting at -0.5.

4	5	9	3	4	6	1
5	0	7	2	5	8	6
3	4	7	6	5	6	8

- 5) Each year a company selects 5 employees for a training program at a nearby university. On the average, 40% of those sent complete the course in the top 10% of their class. If we consider an employee finishing in the top 10% of the class a success in a binomial experiment, then for the 5 employees entering the program there exists a binomial distribution ($P(x$ successes out of 5)).
- Write the function defining the distribution _____
 - Construct a table for the distribution.
 - Compute the mean _____
 - Compute the standard deviation _____

6) . The weekly record of reported accidents in a large auto assembly plant in a random sample of 35 weeks from the past 10 years is listed below:

34 33 36 35 37 31 37
39 34 35 37 35 32 35
33 35 32 34 32 32 39
34 31 35 33 31 38 34
36 34 37 34 36 39 34

- a) Construct a frequency and relative frequency table using class intervals of width 2 and starting at 29.5.
- b) Construct a histogram.
- c) Construct a frequency polygon.
- d) Construct a cumulative frequency polygon.
- e) Find the mean of the **grouped data** _____
- f) Find the standard deviation of the **grouped data** _____
- g) Find the median of the data _____
- h) What is the probability that a week chosen at random will have reported accidents between 33.5 to 37.5? _____

Answer Key

Testname: M118-TEST4-SPRING2002.TST

1) Answer: a) 10 b) 10 c) 5 d) 5.14

2) Answer: a) 4.5 b) 4.14 c) 1.97

3) Answer: a) .00374 b) .01522 c) .96429

4) Answer: a) 71% b) 95% c) 100%

5) Answer: a) ${}_5C_x \cdot .4^x \cdot .6^{5-x}$ b) $P(0) = .07776$, $P(1) = .2592$, $P(2) = .3456$, $P(3) = .2304$, $P(4) = .0768$, $P(5) = .01024$ c)
2 d) 1.0954

	Interval	Frequency	Rel. Freq	Cumul Freq
	29.5-31.5	3	.09	3
6) Answer: a) and d)	31.5-33.5	7	.2	10
	33.5-35.5	14	.4	24
	35.5-37.5	7	.2	31
	37.5-39.5	4	.11	35

e) 34.61 f) 2.22 g) 34 h) .6