

7. Sign test .05 level of Significance

Before	133	152	169	156	178	121	144	106	182	122
after	135	160	180	154	185	125	140	108	175	122

8.  $f(x) = \begin{cases} \frac{3}{8}x^2, & 0 \leq x \leq 2 \\ 0, & \text{elsewhere} \end{cases}$

a) find  $Pr(X=1)$  and  $Pr(X \geq 1)$

b) find cumulative distribution function

c) find mean and variance

d) find median of  $X$

9. Cont. random variable  $X$  has a mean of 100 and standard deviation of 20. What is the chance  $X$  is between 60 and 140 if:

a) we know nothing more about  $X$ 's distribution

b) we know  $X$  has a normal distribution

10. Sell 2 homes per day, what is the chance 3 homes are sold tomorrow assuming Poisson distribution find chance that:

a) 2 homes are sold tomorrow

b) at least 2 homes are sold tomorrow

c) at most 4 homes are sold next week

11. Average life time of 10000 hours, let  $T$  be the lifetime find:

a) cumulative distribution function of  $T$

b)  $P(T > 15000)$

c)  $P(T < 3000)$

12.

$X^Y$	1	2	3
0	.1	.2	.3
1	.2	.1	.1

there where 7 parts to #12 each part has to do with a section of chapter 10

13. 2 sided Z-test ch 12.2 Sample of 25 taken with mean of 40 and deviation of 2 using a 95% interval find the rejection margin

14. Sample of 100 taken, 38 people say they are democrats, the past data states the number of democrats used to be 30%. use this to state  $H_0$ , reject region and use it to answer question

76, 81, 92, 68, 59, 62, 61, 58, 73, 81, 88, 74, 77, 82, 78

1. a) Ordered Stem and leaf plot of the data

b) find the five number summary

c) make a box Plot

2. a) using same data as Question 1 compute sample mean and standard deviation, ~~round to 2 d.p.~~

b) i) Predict number of minutes another person would take to complete the task, give or take how much

ii) average minutes to complete the task,  $\pm$  how much

3. 75% take math, 60% take science, 40% take both

a) make a venn diagram

b) find likelihood a person

i) was taking 1 subject

ii) was not taking either

iii) taking math but not science

4) ~~prob~~ taking math given not taking science

4. given  $P(A) = .5$ ,  $P(B) = .2$  find  $P(A \cap B)$ ,  $P(A \cup B)$

a) if independent b) if exclusive

5. Prob of 0 is .4, 1 to a 0 is .1, 0 to a 1 is .2

a) make a tree diagram

b) Prob of 0 is sent and received

c) Prob that 0 is received

d) if 0 is received, what is the Prob 0 was sent

6.

X	-2	-1	0	1	2
f(x)	$\frac{2}{16}$	$\frac{3}{16}$	$\frac{6}{16}$	$\frac{3}{16}$	$\frac{2}{16}$

a) graph cumulative distribution function, and piecewise formula

b) Compute mean and Variance of X

c) draw a histogram for X

d) compute  $E[(X-2)^3]$