

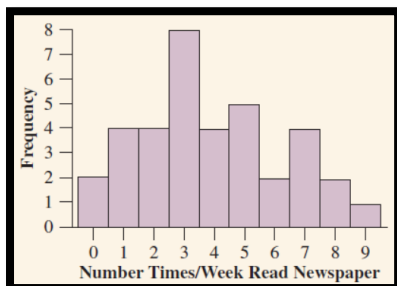
Taibah University College of Computers science and Engineering		Date: Mon 21 Nov. 2022 Time: 9:00 — 10:00
STAT 305 الاحتمالات والاحصاء الهندسي YISB1		Total Marks: 40

Question 01

[33 Marks]

- The **probability** that a number **greater than 4** appears on the up face in a **single toss of a fair** six-sided die is
 - 1/6
 - 1/3
 - 1/2
 - 2/3
- Find the **probability** that **at least one head** appears when **two fair coins** are flipped and the up face on each is observed
 - 1/4
 - 1/2
 - 3/4
 - 1
- A box contains **30 identical-looking items**, of which **3 are defective**. If one item is selected at random, what is the **probability that the item is defective**?
 - 1/30
 - 1/11
 - 1/10
 - 9/10
- A quiz consists of **three multiple-choice questions**, each of which has **two possible answer choices (A, and B), one of which is correct**. Suppose that an unprepared student does not read the questions but simply makes a random guess for each question. What is the probability that the student will **guess correctly on at least one question**?
 - 1/4
 - 3/4
 - 1/8
 - 7/8
- Given $P(A) = 0.5$, $P(B) = 0.3$, and $P(A \text{ and } B) = 0.06$, calculate $P(A \text{ or } B)$.
 - 0.15
 - 0.94
 - 0.80
 - 0.74

For questions 6 to 10 — How often do students read the newspaper?

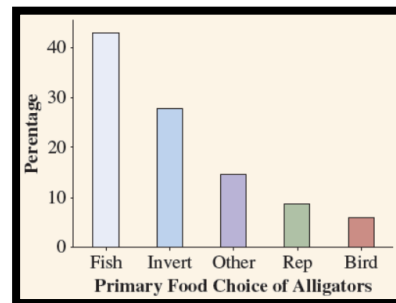


- Is this variable continuous or discrete?
 - Continuous
 - Discrete
- Minimum response
 - 0
 - 2
 - 1
 - 9
- Maximum response

- 0
- 2
- 1
- 9

- Number of students who did not read the newspaper at all
 - 0
 - 2
 - 1
 - 9
- The mode is
 - 9
 - 8
 - 3
 - 0

For questions 11 to 13 — For 219 alligators captured in four Florida lakes, researchers classified the primary food choice (in volume) found in the alligator's stomach in one of the categories



- Is primary food choice categorical or quantitative?
 - Categorical
 - quantitative
- Which is the **modal category** for primary food choice?
 - Fish
 - Invert
 - Bird
 - Rep
- About what percentage of alligators had fish as the primary food choice?
 - 43
 - 25
 - 18
 - 5

For questions 14 to 18 — A student wants to examine the distribution of his scores as shown on his academic transcript. To this end, he constructs the stem-and-leaf plot of his records:

6	588
7	01136779
8	1223334677789
9	011234458

- The number of courses is _____
 - 3
 - 22
 - 33
 - 17
- The minimum score is _____
 - 6

b) 65

c) 56

d) 09

16. The Maximum score is _____

a) 118

b) 98

c) 81

d) 95

17. The mode is _____

a) 3

b) 7

c) 3 and 7

d) 1 and 4

18. The Median is _____

a) 17

b) 82.5

c) 38

d) 83

For questions 19 to 22, refer to the information shown here:



19. According to the dot plot, how many customers waited less than 15 minutes in line?

a) 10

b) 12

c) 13

d) 15

20. What is the greatest amount of time in minutes waited in line by a customer?

a) 15

b) 17

c) 19

d) 20

21. The median is

a) 8

b) 9

c) 10

d) 13

22. To the nearest tenth, what is the mean number of minutes the 16 customers waited in line?

a) 10.0

b) 10.3

c) 10.5

d) 11.0

Question 02

[7 Marks]

A sample of 100 adult women was taken, and each was asked how many children she had. The results were as follows:

Children	0	1	2	3	4	5
Number of Women	27	22	30	12	7	2

A) Find the **sample mean** number of children. $156/100 = 1.56$

B) Find the **sample median** of the number of children. 2

C) What is the **first quartile** of the number of children? 0

D) **What proportion** of the women had more than the mean number of children?

$$51/100 = 51\%$$

Name

ID

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1 a b c d 12 b c d

2 a b c d 13 b c d

3 a b c d 14 a b c d

4 a b c d 15 a c d

5 a b c d 16 a c d

6 a b c d 17 a b c d

7 b c d 18 a b c d

8 a b c d 19 a c d

9 a b c d 20 a b c d

10 a b c d 21 a b c d

11 b c d 22 a c d

22 MCQ (0048)

BEST WISHES

Dr. Mostafa A. Elhosseini

Taibah University Professor

<https://youtube.com/drmelhosseini>