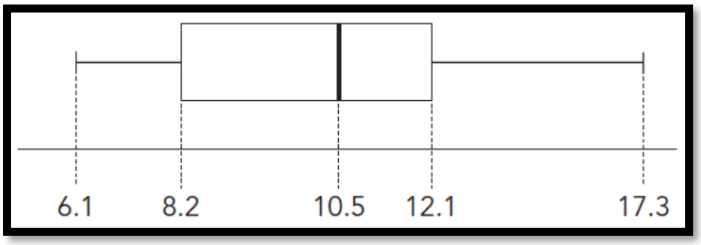
Taibah University College of Computers science and Engineering		Date: Tue 18 Oct. 2022 Time: 14:45 — 15:45
الاحتمالات والاحصاء الهندسي STAT 305 YISB1 – Midterm		Total Marks: 30

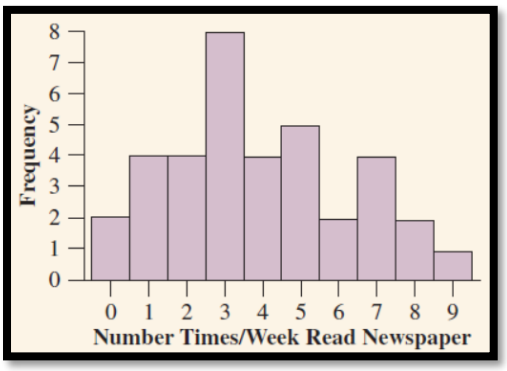
Question 01 [24 Marks]

For questions **1–4**, refer to the following box plot:



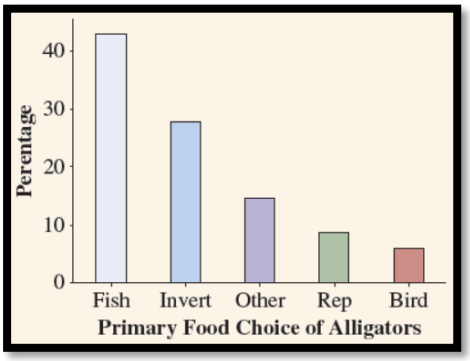
1. What is the **median** of the dataset whose box plot is shown?
   a) 8.2
   b) 10.1
   c) 10.5
   d) 12.1
2. What is the **range** of the dataset whose box plot is shown?
   a) 11.2
   b) 9.1
   c) 6.8
   d) 3.9
3. What is the **IQR** of the data set whose box plot is shown?
   a) 11.2
   b) 9.1
   c) 6.8
   d) 3.9
4. Which of the following statements is always true of the box plot shown?
   a) There are no outliers in the data.
   b) A value of 17.3 is a possible outlier.
   c) Any value between 6.1 and 8.2 is a possible outlier.
   d) Any value between 12.1 and 17.3 is a possible outlier.

For questions **5 to 9** — How often do students read the newspaper?



5. Is this variable continuous or discrete?
   a) Continuous
   b) Discrete
6. **Minimum** response
   a) 0
   b) 2
   c) 1
   d) 9
7. **Maximum** response
   a) 0
   b) 2
   c) 1
   d) 9
8. Number of students who did not read the newspaper at all
   a) 0
   b) 2
   c) 1
   d) 9
9. The **mode** is
   a) 9
   b) 8
   c) 3
   d) 0

For questions **10 to 12** — 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



10. Is primary food choice **categorical or quantitative**?
    a) Categorical
    b) Quantitative
11. Which is the **modal category** for primary food choice?
    a) Fish
    b) Invert
    c) Bird
    d) Rep
12. About what **percentage** of alligators had fish as the primary food choice?
    a) 43
    b) 25
    c) 18
    d) 5

For questions **13 to 17** — 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:

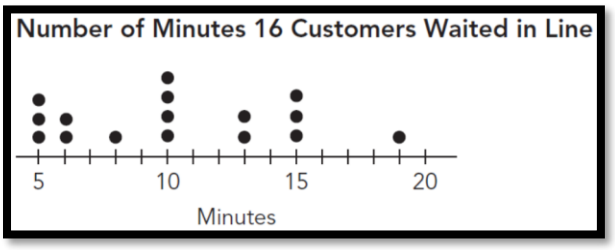
6	588
7	01136779
8	1223334677789
9	011234458

13. The number of courses is _____
    a) 3
    b) 22
    c) 33
    d) 17
14. The **minimum** score is _____
    e) 6
    f) 65
    g) 56

h) 09

15. The **Maximum** score is _____
    a) 118
    b) 98
    c) 81
    d) 95
16. The **mode** is _____
    a) 3
    b) 7
    c) 3 and 7
    d) 1 and 4
17. The **Median** is _____
    a) 17
    b) 82.5
    c) 38
    d) 83

For questions **18 to 21**, refer to the information shown here:



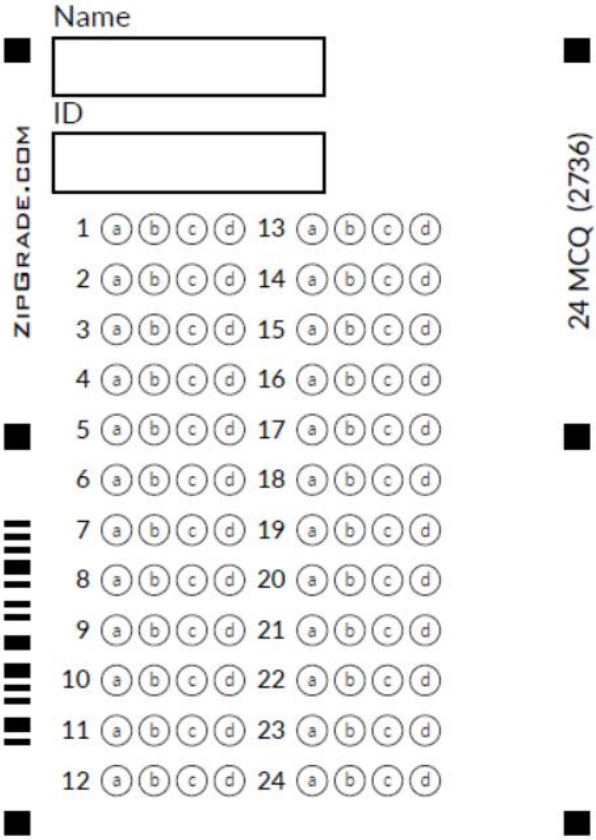
18. According to the dot plot, how many customers waited less than 15 minutes in line?
    a) 10
    b) 12
    c) 13
    d) 15
19. What is the greatest amount of time in minutes waited in line by a customer?
    a) 15
    b) 17
    c) 19
    d) 20
20. The **median** is
    a) 8
    b) 9
    c) 10
    d) 13
21. 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
22. In the following data set, what additional number should be included in the data set to yield a mean of 10?
    5, 8, 10, 12, ____
    a) 8
    b) 10
    c) 12
    d) 15

The heights (in inches) of 30 adult males are listed below. A frequency distribution shows the frequency and relative frequency using five classes.

70	72	71	70	69	73	69	68	70	71
67	71	70	74	69	68	71	71	71	72
69	71	68	67	73	74	70	71	69	68

Class 01: 67.0 – 68.4
Class 02: 68.5 – 69.9
Class 03: 70.0 – 71.4
Class 04: 71.5 – 72.9
Class 05: 73.0 – 74.4

23. Which **category** of heights represents the **mode**?
    a) 67.0 – 68.4
    b) 68.5 – 69.9
    c) 70.0 – 71.4
    d) 71.5 – 72.9
24. What **proportion** of the 30 adult males had heights less than 70 inches?
    a) 0.167%
    b) 0.367%
    c) 0.433
    d) 0.20



Question 02 [6 Marks]

A recent survey asked students, "On average, how many times in a week do you go to a restaurant for dinner?" Of the 570 respondents, 84 said they do not go out for dinner, 290 said once, 100 said twice, 46 said third, 30 said 4 times, 13 said 5 times, 5 said 6 times, and 2 said 7 times.

A) Display the data in a table.
B) Find the median
C) Find the Mean

BEST WISHES
Dr. Mostafa A. Elhosseini
Taibah University Professor
https://youtube.com/drmelhosseini