

Self-Assessment on Statistics and Probability

1. BAR AND PIE CHART

1. the table below gives the numbers of entered in a state teacher grade 2 certificate examination for the years 2006-2010. Show the information of the table in a bar chart.

Year:	2006	2007	2008	2009	2010
No. of:	2200	1700	1400	2800	4200
Entries					

2. in a secondary school in Sierra Leone, a census taken regarding the various ethnic groups gives the following results below;

Creole- 200

Fulah- 50

Limba- 90

Mende- 100

Susu- 60

Temne- 80

Others - 140

Represent the following data on a pie chart in terms of angle of each sector.

3. the table below gives the ages of some student who were born in April.

Age(yrs.): 13. 14. 15. 16. 17

No of: 8. 5. 6. 3. 8

Students

Show this information in a bar chart.

4. a mother spent the following amounts of money for ingredients for the family meal:

Tomatoes -\$30

Rice-\$90

Oil-\$75

Meat -\$300

Vegetables -\$45

Represent the cost of the ingredients for the meal on a pie chart in terms of percentage.

5. A box of pens contains 50 pens. 100 such boxes were examined for faulty pens. The table below shows the result of the examination;

No of Faulty pens : 0. 1. 2. 3. 4. 5. 6

No. Of boxes: 7. 10. 12. 20. 19. 18. 14

A. Draw a bar chart to show the information in the table.

B. State the modal number of faulty pens.

Answer: 3

C. Find the median of the distribution

Answer: 4

6.the table below gives the budget estimation of the LGA for a year;

Item.	Amount (\$ million)
Agriculture	70
Development	80
Education	110
Health	60
Water supply.	30
Others	50

Represent this budget by mean of a pie chart in terms of angles of the sector.

2. MEAN, MEDIAN AND MODE

1.calculate the mean of the following set of numbers:

176 174 178 181 174 175 179 180 177

Answer: 177.6

2.find the median of;

A. 15, 11, 8, 21, 17, 3, 8. Answer:11

B. 3.8, 2.1, 4.4, 8.3, 9.2, 5.0. Answer:4.7

3.find the mode of the show sizes of five students which are; 10, 9, 10, 11 and 5.

Answer: 10

4.for the following set of numbers;

13,14,14,15,18,18,19,19,19,21

A. state the median. Answer:18

B. state the mode. Answer:19

C. Calculate the mean. Answer: 17

5.students at teachers training college are grouped by age given in the table below;

Age(yrs.): 20. 21. 22. 23. 24. 25

Frequency: 4. 5. 10. 16. 12. 3

A. Find the modal age. Answer:23

B. Find the median age. Answer: 23

C. Calculate the mean age of the students

Answer: 22.72 years.

6.a die was rolled 50 times with the results given in the table below;

Score: 1. 2. 3. 4. 5. 6

Frequency: 5. 9. 7. 11. 8. 10

A. Calculate the mean. Answer: 3.76

B. Find the median. Answer: 4

C. The mode. Answer: 4

3. GROUPED DATA

1. the table below gives the marks of 50 students in a test.

35 51 83 60 61 73 44 90 70 93
56 34 52 61 43 57 40 58 88 64
52 71 25 86 79 35 73 44 71 95
63 53 48 78 65 98 28 72 67 82
46 54 62 35 70 41 63 73 50 68

- A. Construct the histogram taking class intervals of 21-30, 31-40.....,91-100.
- B. What is the modal class. Answer :61-70
- C. What is the mean mark. Answer:61.7

2. the table below shows the marks obtained by 40 students in a test

Marks:0-9	10-19	20-29	30-39	40-49
No. Of: 4.	5.	6.	12.	8
Students				

- A. Draw a histogram to mark the distribution.
- B. Use the histogram to estimate the mode. Answer: 35.5
- C. Calculate the median of the distribution. Answer: 33.67

3. draw a histogram of the class intervals below;

145-149,150-154,155-159...,185-189. Of frequencies 4, 6 ,8 ,7 ,5 ,12 ,15 What is the modal class of the distribution.
Answer:165-169

4. draw a histogram and frequency polygon of the frequency distribution in the table below ;

Class:	1-5	6-10	11-15.	16-20	21-25
Frequency:	5.	7.	10.	6.	2

5. Using the table in question 4 find;

- A. The modal class. Answer:11-15
- B. The mode. Answer: 13
- C. The mean. Answer :11.8

6. the table below gives the heights in cm of 30 students;

145 163 149 152 166 156 159 139 145 141
150 158 150 149 143 159 154 167 146 147
152 162 144 169 162 150 173 160 167 171

- A. Take class intervals 135-144,145-154,and construct the table of frequencies.
- B. Calculate the mean height of the students. Answer: 154.8cm

4. RANGE, MEAN DEVIATION, AND STANDARD DEVIATION

SELF ASSESSMENT:

1. calculate the standard deviation of the set of numbers;
2,5,6,7,3,8,9,8. Answer: 2.35.

2. a cement manufacturer owns three sales companies; CEM1, CEM2 and CEM3. In one year the monthly sales in tons of cement for the 3 companies are;

CEM1: 58,58,58,58,58,58,58,58,58,58,58,58.

CEM2:

48,56,57,57,58,58,58,59,60,60,62,63.

CEM3:

32,42,50,54,56,58,58,60,62,66,70,88.

A. Calculate the mean monthly sales of each company. Answer: 58 tons

B. Compare the ranges of the 3 distributions. Answer: CEM1=0 tons

CEM2=15 tons

CEM3=56 tons

3. find the range of the following distributions;

A. 3,5,6,7,8,2,1,8. Answer :7

B. 3.9cm,4cm,4.2cm,3.9cm,3.8cm,4cm. Answer :0.4cm

4. find the variance of the following questions below;

A. 42kg,38kg,41kg,39kg. Answer :2.5kg

5. the heights in cm of 10 children are;

145. 163. 159. 162. 167

149. 150. 160. 170. 155

A. Calculate the mean height. Answer: 158cm

B. Calculate the standard deviation of the heights. Answer: 7.7cm

6. the number of beans in some coco pods are; 30,28,30,35,40,25,32,36,38 and 40.

A. Calculate the mean number of beans per pod. Answer :33.4

B. Calculate the standard deviation of the distribution. Answer: 4.92

5. PROBABILITY

1. a die is rolled 200 times. The outcomes obtained are shown below;

Number: 1. 2. 3. 4. 5. 6

No. Of: 25. 30. 45. 28. 40. 32

Times

Find the probability of obtaining a;

A. 2 Answer: 0.15

B. 5. Answer: 0.2

C. 6. Answer :0.16

2. A letter is chosen at random from the alphabet. Find the probability that is ;

A. F. Answer:0.0384

B. F or T. Answer:0.0769

C. F and T. Answer:0.00148

D. One of the letters of the word FREQUENCY Answer: 0.308

E. Not one of the letters of the word TABLE

Answer: 0.808

3. a bag contains 2 black balls, 3 green balls and 4 red balls. A ball is picked at random from the bag. What is the probability that it is;

A. Black. Answer: 0.22

B. Green. Answer: 0.33

C. Red. Answer :0.44

D. Not black. Answer :0.78

E. Either black or red. Answer: 0.67

4. a fair six sided die is thrown. Find the probability of getting;

A. 3. Answer :0.17

B. Either 1, 2 or 3. Answer: 0.5

C. 4. Answer :0.17

5. a letter is chosen at random from the alphabet. Find the probability that it is ;

A. Not A or Z. Answer :0.92

B. M. Answer: 0.038

6. a coin is tossed and a die is thrown. What is the probability of getting a head and a perfect square .

Answer : 0.17