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DepED
DEPARTMENT OF EDUCATION

# Mathematics

## Quarter 4 – Module 2

## Data Gathering and Organizing

ALTERNATIVE DELIVERY MODE
ADM

**Mathematics – Grade 7**
**Alternative Delivery Mode**
**Quarter 4 – Module 2: Data Gathering and Organizing**
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# Mathematics

## Quarter 4 – Module 2:
## Data Gathering and Organizing

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# Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

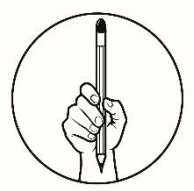
Thank you.

# *What I Need to Know*

This module was designed and written with you in mind. It is here to help you master on gathering statistical data and organizing data using the frequency distribution table. The scope of this module permits it to be used in many different learning situations. The language used recognizes the diverse vocabulary level of students. The lessons are arranged to follow the standard sequence of the course. But the order in which you read them can be changed to correspond with the textbook you are now using.

This module focuses on the lesson data gathering and organizing. After going through this module, you are expected to:

1. identify the methods used in gathering data;
2. gather and organize data using the frequency distribution table.



# *What I Know*

**DIRECTIONS**: Choose the letter of the correct answer. Write the chosen letter on a separate sheet of paper.

1. It is an oral or verbal communication method of collecting data where the interviewer asks questions generally in a face-to-face contact to the other person or persons.
   A. Experiment Method
   B. Interview Method
   C. Observation Method
   D. Questionnaire Method
2. It is a method used when the objective is to determine the cause and effect relationship of a certain phenomenon under controlled condition.
   A. Experiment Method
   B. Interview Method
   C. Observation Method
   D. Questionnaire Method
3. It is a data you first gather from an experiment or study. The data is raw that is, it's not sorted into categories, classified, or ~~otherwise~~ grouped.
   A. Frequency data
   B. Grouped data
   C. Histogram
   D. Ungrouped data
4. It is a data that has been bundled together in categories.
   A. Frequency data
   B. Grouped data
   C. Histogram table
   D. Ungrouped data
5. It is the difference between the upper and lower boundaries of any class in a frequency distribution table.
   A. Average
   B. Class width
   C. Data
   D. Frequency

6-8. The data below shows the mass of 40 students in a class. The measurement is to the nearest kg.

| Mass (kg) | Frequency |
|---|---|
| 45 – 49 | 2 |
| 50 – 54 | 4 |
| 55 – 59 | 7 |
| 60 – 64 | 10 |
| 65 – 69 | 4 |
| 70 – 74 | 6 |
| 75 – 79 | 7 |

6. What is the range of the given data above?

A. 26 B. 28 C. 30 D. 34

7. What is the width of the class interval of the given data above?

A. 4 B. 5 C. 6 D. 7

8. What is the total frequency of the given data?

A. 30 B. 35 C. 40 D. 50

*9-11. Given below are marks obtained by 20 students in Math.*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 21 | 23 | 19 | 17 | 12 | 15 | 15 | 17 | 17 | 19 |
| 23 | 23 | 21 | 23 | 25 | 25 | 21 | 19 | 19 | 19 |

9. What value appears most frequently in the given data?

A. 17 B. 19 C. 21 D. 23

10. What is the total frequency of the data?

A. 10 B. 15 C. 18 D. 20

11. What is the lowest data value?

A. 12 B. 15 C. 17 D. 19

12-15. Given the data for the Ages of 50 students enrolled in Math.

| **Age** | **Frequency** |
|---|---|
| 12 | 2 |
| 13 | 13 |
| 14 | 27 |
| 15 | 4 |
| 16 | 3 |
| 17 | 1 |

12. What is the total frequency of the given data?

A. 30 B. 40 C. 45 D. 50

13. How many students enrolled in Mathematics have an age of 15?

A. 3 B. 4 C. 13 D. 27

14. How many students enrolled in Mathematics have an age of 13?

A. 3 B. 4 C. 13 D. 27

15. How many students enrolled in Mathematics have an age of 14?

A. 3 B. 4 C. 13 D. 27

# Lesson 1

# Gathering Statistical Data and Organizing Data in a Frequency Distribution Table

## *What's In*

In your previous lesson, you learned how to formulate simple statistical instruments given the different real-life problems. Let's check your learning.

Given the situation below, develop a meaningful conclusion of random, stratified, cluster, systematic and convenience sample.

> A mathematics teacher plans to choose four students from the math club to be in a publicity photo. How could the teacher choose the four student?

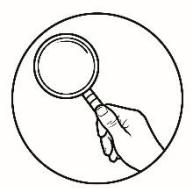
## *What's New*

Aldrin has a part-time job at the Body Fit Gym. His boss wants to know the ages of the teenagers in the center's taekwondo class. Aldrin records the ages of everyone in the class. Below are the ages of the teenagers.

**Ages of Students in the Taekwondo Class**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 14 | 15 | 18 | 16 | 13 | 15 | 16 | 17 | 16 |
| 15 | 18 | 17 | 14 | 16 | 13 | 16 | 17 | 19 |

A. How many teenagers are attending the taekwondo class?
B. What is the age of the oldest member of the taekwondo class?
C. What is the age of the youngest member of the taekwondo class?
D. How many teenagers belong to ages 13 to 15?
E. How many students have an age greater than 15?



# *What is It*

Collection of data is an important part of Statistics. Data should be collected in a manner that they are accurate and convenient to use.

**Data is a collection of facts or information. They may be gathered by using the following methods.**

1. **Conducting Surveys**

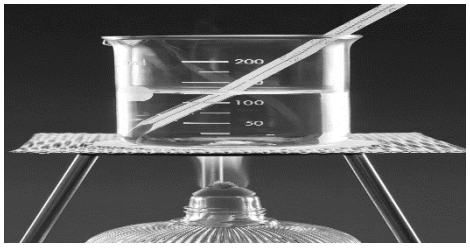


Example: Teacher made a form and ask the students to fill out the previous grades and return the form to him/her.

2. **Observing the Outcomes of Events**

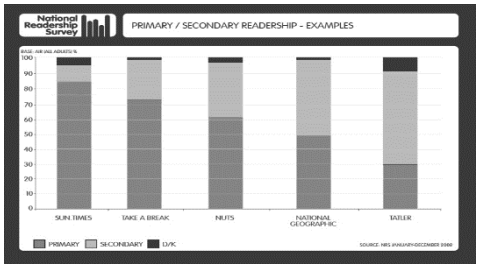
Example: Jessa wanted to find whether a die was fair or biased. She tossed the die 40 times and recorded the results.

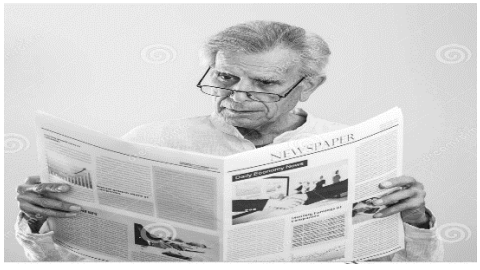
3. **Taking measurements in experiments**




Example: The physicist and chemist conducted an experiment on how can saw dust be substituted for sand in the production of hollow blocks.

4. **Reading Statistical Publication**




Example: Mr. Rivera check the date of birth of each student in the class registry.

**Methods Used in the Collecting Data**

- ***Interview Method*** – this method of collecting data is an oral or verbal communication where the interviewer asks questions in any mode (face to face, telephone, or virtual) to an interviewee. The person gathering the data is called the *interviewer,* while the person supplying the data is the *interviewee.*

- **Questionnaire *Method*** – on this method data is gathered through a set of question that is mailed or handed to respondents who are expected to read and understand them. And the respondents then, write down their responses in the space provided the accomplished questionnaire is then returned for appropriate processing.

- ***Observation Method*** – the data on this method are gathered either individually or collectively by means of observation. The person who gathers the data is called an *investigator* while the person being observed is called the *subject*.

- ***Experiment Method*** – this method is used when the objective is to determine the cause and effect relationship of a certain phenomenon under controlled condition.

After gathering data, we need to organize them. If we don't do this, we might miss important information about the data and may result to difficulty in interpreting the data that we have gathered. Using ***frequency table*** helps us to record, clarify and easily find what we are looking for our data. In a ***tally table***, tally marks ( ׀ ) are used to record data, while in a frequency table, numbers are used instead of tally marks.

| |
|---|
| ***Frequency*** – the number of occurrences of a data |
| ***Frequency table*** – is a table that lists items and shows the number of times the items occur. |

***Steps in constructing a frequency table (for ungrouped data)***

**Step 1**: Make three columns. Arrange the data in order in the first column.
**Step 2**: Make a tally.
**Step 3**: Count the tallies then write the frequencies
**Step 4:** Total all the frequencies

***Example 1:***

Below are the results of a survey about the favorite colors of 15 students in a freshman class. What color is the most favorite of the students and the least favorite color?

| | | | | |
|---|---|---|---|---|
| Green | Red | Yellow | White | Red |
| Violet | Black | Green | Yellow | Black |
| Yellow | Red | White | Red | Green |

***Solution:***

1. Write the colors in the first column.
2. Make a tally.
3. Count the tallies then write the frequencies.
4. Total all the frequencies.

| **Color** | **Tally** | **Frequency** |
|---|---|---|
| Green | III | 3 |
| Red | IIII | 4 |
| Yellow | III | 3 |
| Violet | I | 1 |
| White | II | 2 |
| Black | II | 2 |
| **TOTAL** | | **15** |

Based on the table, it shows that red is the most favorite color and violet is the least favorite color of the 15 students.

***Example 2:***

An airline asked their passenger on a flight to rate the quality of their service. The table below shows the ratings of 24 passengers. Make a frequency distribution table of the data collected. How many passengers gave a rating of 3 and below?

| Service Ratings | | | | | |
|---|---|---|---|---|---|
| 3 | 5 | 4 | 2 | 4 | 3 |
| 4 | 2 | 1 | 4 | 3 | 5 |
| 5 | 1 | 2 | 5 | 3 | 1 |
| 4 | 3 | 5 | 2 | 5 | 2 |
| 5: Excellent | 4: Very Good | 3: Good | 2: Fair | 1: Poor | |

***Solution:***

1. Write the service ratings in order.
2. Make a tally.
3. Count the tallies then write the frequencies.
4. Total all the frequencies.

| Service Rating | Tally | Frequency |
|---|---|---|
| Excellent | 𝍸 I | 6 |
| Very Good | 𝍸 | 5 |
| Good | 𝍸 | 5 |
| Fair | 𝍸 | 5 |
| Poor | III | 3 |
| | **TOTAL :** | **24** |

The rates of 3 and below consist of good (3), fair (2), and poor (1). Their frequencies are 5, 5, and 3, respectively. Adding these three frequencies will result to 13, the number of passengers who gave a rating of 3 and below.

The word data refers to information that is collected and recorded. It can be in the form of numbers, words, measurement and much more.

Grouped data is the type of data which is classified into groups after collection.

Ungrouped data which is also known as raw data that has not been placed in any group or category after collection.

***Steps in constructing a frequency table for a given ungrouped data to be transformed as a grouped data.***

1. Determine the range.
   *Range* is the difference between the highest value *H* and the lowest value *L* in the set of data. **R = H – L**

2. Determine the desired number of the class interval or categories. The ideal number of class interval in somewhere between 5 and 15.

3. Determine the class width or approximate size of the class interval by dividing the range by the desired number of class intervals.

$$\textbf{\textit{Class width}} = \frac{Range}{Class\ Interval} \quad \text{in symbol} \quad w = \frac{R}{CI}$$

4. Write the class intervals starting with the lowest lower value as determined in the data. Then add the class width to the starting point to get the next interval. Do this until the highest value is contained in the last interval.

5. Tally the corresponding number of scores in each interval. Then summarize the results or sum up the tallies under the frequency column.

***Example 1:***

The following are the test scores of students. Construct a suitable frequency table. Use 6 as the desired number of class interval.

| | | | | | |
|---|---|---|---|---|---|
| 14 | 15 | 30 | 19 | 10 | 18 |
| 26 | 30 | 10 | 15 | 15 | 28 |
| 10 | 30 | 34 | 40 | 20 | 40 |
| 20 | 30 | 10 | 22 | 36 | 36 |
| 22 | 18 | 14 | 26 | 17 | 37 |
| 21 | 19 | 11 | 16 | 29 | |

***Solution:***

1. Determine the range.

   $\boldsymbol{R} = H - L$

   $= 40 - 10$

   $= 30$

2. Class Interval **= *6***

3. Determine the Class Width

   $\boldsymbol{W} = \frac{R}{CI} = \frac{30}{6} = 5$

4. Write the class intervals starting with the lowest ~~lower~~ value as determined in the data.

   *- Starting with 10 and with w = 5, the class intervals are: 10 – 15, 16 – 21, 22 – 27, 28 – 33, 34 – 39, 40 – 45.*

5. Tally the corresponding number of scores in each interval. Then summarize the results or sum up the tallies under the frequency column.

| **Scores** | **Tally** | **Frequency** |
|---|---|---|
| 10 – 15 | 𝍸 𝍸 | 10 |
| 16 – 21 | 𝍸 \|\|\|\| | 9 |
| 22 – 27 | \|\|\|\| | 4 |
| 28 – 33 | 𝍸 \| | 6 |
| 34 – 39 | \|\|\|\| | 4 |
| 40 – 45 | \|\| | 2 |
| **TOTAL** | | **35** |

***Example 2:***

The following are the weights (in lbs) of grade 7 students. Construct a frequency table using 7 as the desired number of class interval. How many students weigh more than 100 lbs?

*Solution:*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 93 | 97 | 91 | 104 | 108 | 81 | 93 | 100 | 107 |
| 118 | 97 | 83 | 103 | 108 | 101 | 87 | 88 | 114 |
| 86 | 92 | 91 | 97 | 99 | 102 | 111 | 101 | 95 |
| 80 | 110 | 96 | 96 | 98 | 104 | 101 | 106 | 94 |

1. Determine the range.

   $\boldsymbol{R} = H - L$

   $= 118 - 80$

   $= 38$

2. Desired Number of Class Interval **= *7***

3. Determine the Class Width

   $$\boldsymbol{W} = \frac{R}{CI} = \frac{38}{7} = 5.42 = 6$$

4. Write the class intervals starting with the lowest lower value as determined in the data.

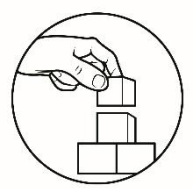
   - *Starting with 80 and with w = 6, the class intervals are: 80 – 86, 87 – 93, 94 – 100, 101 – 107, 108 – 114, 115 – 121.*

5. Tally the corresponding number of scores in each interval. Then summarize the results or sum up the tallies under the frequency column.

   *The table shows the frequency table*

| **Weight (lbs)** | **Tally** | **Frequency** |
|---|---|---|
| 80 – 86 | 𝍸 | 4 |
| 87 – 93 | 𝍸 \|\| | 7 |
| 94 – 100 | 𝍸 𝍸 | 10 |
| 101 – 107 | 𝍸 \|\|\|\| | 9 |
| 108 – 114 | 𝍸 | 5 |
| 115 – 121 | \| | 1 |
| **TOTAL** | | **36** |

To answer the question, the students who weigh more than 100 lbs are those in the class intervals 101 - 107, 108 – 114, and 115 – 121. Therefore, there are 9 + 5 + 1 = 15 students who weigh more than 100 lbs.



# *What's More*

**A. Directions:** Match *column **A*** with *column **B.*** Write the letter of the correct answer on the space provided before the number.

| A | B |
|---|---|
| _____1. Nick stood outside a movie theater and asked many of patrons if the movie they saw was good. | **A.** data |
| _____2. Mark used the Slovin's Formula because he don't have an idea about how a population is going to behave. | **B.** survey |
| _____3. Mrs. Smith got the students' final examination scores in her math class for the past year. | **C.** experimentation |
| | **D.** sample |
| _____4. Asher observed students entering classroom for a class, and recorded whether the first half of the students who arrived for class chose to sit in front of the room. | **E.** observation |
| _____5. Leo gave each member of the class a cookie, some from recipe A and some from recipe B, then she observed which students returned for a second cookie. | |

**B**. The table shows the favorite subjects in school of selected grade 7 students of Koronadal National Comprehensive High School. Complete the frequency table then answer the questions below.

Favorite Subjects of Selected Grade 7 Students of Koronadal National Comprehensive High School

| **Subjects** | **Tally** | **Frequency** |
|---|---|---|
| English | 𝍸 \|\| | |
| Mathematics | 𝍸 𝍸 \| | |
| Science | 𝍸 𝍸 𝍸 𝍸 | |
| Filipino | 𝍸 𝍸 \|\|\| | |
| TLE | 𝍸 𝍸 \|\|\|\| | |
| MAPEH | 𝍸 𝍸 𝍸 \|\| | |
| **TOTAL** | | |

Process questions:

1. What is the most favorite subject of the selected Grade 7 students?
2. What is their least favorite subject?
3. How many students chose Mathematics as their favorite subject?

**C**.Complete the frequency table then answer the following questions.

**Pulse Rate of Grade 7 Students**

| **Pulse Rates, (Beats per Minute)** | **Tally** | **Frequency** |
|---|---|---|
| 85 – 89 | 𝍸 III | 8 |
| 80 – 84 | 𝍸 I | 6 |
| 75 – 79 | 𝍸 𝍸 𝍸 𝍸 | 20 |
| 70 – 74 | 𝍸 𝍸 𝍸 | 15 |
| 65 – 69 | 𝍸 II | 7 |
| 60 – 64 | IIII | 4 |
| **TOTAL** | | **60** |

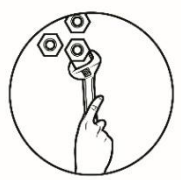
1. What is the most common number of beats per minute?
2. How many people had pulse rates of 80 and higher?
3. How many people had pulse rate of 70 and below?

## *What I Have Learned*

To sum it up, let's identify the concept described on the following statements. Choose your answer from the box.

| | | |
|---|---|---|
| **Frequency table** | **Experiment method** | **Observation method** |
| **Interview method** | **Frequency** | **Questionnaire method** |

1. The number of times an observation happened.
2. This is a method of gathering data where subject/s are watched by an investigator.
3. This method is used to reveal cause and effect relationship of a phenomenon.
4. It is a table that lists and shows the number of times an observation occurred.5.
5. This method requires an interviewer to orally ask questions to an interviewee



# *What I Can Do*

Here is another activity that lets you apply what you learned about ~~on~~ gathering statistical data and organizing frequency distribution table.

**A**. Choose your answer from the box that suggest a way to collect each set of data. Write only the letter of the best answer on the line and space before the number.

| |
|---|
| **A. Conducting survey** |
| **B. Taking measurements in experiments** |
| **C. Observing the outcomes of events** |
| **D. Reading Statistical Publication** |
| **E. Interview Method** |

_____ 1. A researcher wants to find out the most preferred recreational activities by the high school students.

_____ 2. You would like to get the opinion of the President regarding "US-Kuwait Conflict."

_____ 3. The manager of a restaurant would like to know the number of customers they have from 10:00 a.m. to 11:00 p.m.

_____ 4. "The school principal wanted to know if Grade 5 students are enjoying their class in English."

_____5. The Chief of Municipal Social Welfare Development wanted to know the current number of families who have a monthly income below P10 000."

**B**. The sales manager of the company recorded the number of computer units sold by each of the 25 sales agents.

| | | | | |
|---|---|---|---|---|
| 20 | 21 | 25 | 28 | 28 |
| 25 | 20 | 26 | 26 | 26 |
| 21 | 21 | 27 | 27 | 26 |
| 24 | 25 | 29 | 29 | 23 |
| 22 | 24 | 30 | 23 | 30 |

1. Construct a frequency table without grouping the data.
2. How many computers is sold by the most number of sales agent?
3. What is the least number of computer units sold by sales agents?

**C.** The following data represents the weights (in kilograms) of 40 students in a public school

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 64 | 58 | 54 | 67 | 52 | 61 | 46 | 51 |
| 46 | 45 | 51 | 55 | 47 | 49 | 53 | 57 |
| 38 | 43 | 69 | 45 | 48 | 56 | 48 | 50 |
| 57 | 39 | 59 | 53 | 42 | 50 | 63 | 46 |
| 40 | 51 | 47 | 41 | 56 | 48 | 57 | 53 |

1. Construct a frequency distribution using 7 as class width.
2. How many students got the highest weights?
3. How many students weighs at most 53 kg?

**D.** Conduct a survey to find out the allowance of the students received each day from their parents and write their answers inside the box. The number of respondents is 40 students.


a. Construct a frequency table for the data.
b. What is the least amount of allowance received by a student?
c. What is the largest amount of allowance received by a student?
d. How many students received Php 30.00 a day?
e. What is the frequency of Php 10.00?

A. Identify whether the question is statiscal or not. Explain you answer.

1. What are the colors of my shoes?
   _____
2. How many hours of sleep do the grade 7 students need every night?
   _____

B. Identify the following data set as categorical or numerical. Explain your answer.

1. Type of juices drunk by the students in the canteen
   _____
2. Weigth of Alexander's dog
   _____

C. Write at least 5 statistical questions that can be answered by collecting data from your class.

1. _____
2. _____
3. _____
4. _____
5. _____

## *Assessment*

**Multiple Choice**. Choose the letter of the best answer. Write your answer in a separate sheet of paper.

1. It is a table that lists numerical data that have been grouped in intervals and the frequency of occurrence of the data.
   A. Average
   B. Class width
   C. Data
   D. Frequency table

*2-5. Identify which type of data collection was used from the following situations:*

2. Nick stood outside a movie theater and asked many of the patrons if the movie they saw was good.
   A. Experiment Method
   B. Interview Method
   C. Observation Method
   D. Questionnaire Method
3. Shiena gave each member of the class a random cookie, some from recipe A and some from recipe B. Then she noted the students who asked for a second cookie.
   A. Experiment Method
   B. Interview Method
   C. Observation Method
   D. Questionnaire Method

4. Steven observed students enter a classroom for class, and recorded whether the students will sit in front or not.
   A. Experiment Method
   B. Interview Method
   C. Observation Method
   D. Questionnaire Method

5. Marilyn searched the internet to find comments and reviews from people who owned the type of laptop she was thinking of buying.

A. Experiment Method
B. Interview Method
C. Observation Method
D. Questionnaire Method

6. The ages of children at a summer camp are recorded as follows:

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 9 | 8 | 10 | 10 | 11 | 12 | 8 | 8 | 9 | 9 |
| 9 | 10 | 9 | 10 | 10 | 11 | 11 | 10 | 9 | 9 | 8 |

What type of data is this?

A. Average Data
B. Grouped Data
C. Statistical Data
D. Ungrouped Data

***7-10. Given below are marks obtained by 20 students in a 25 point test in Math.***

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 | 23 | 19 | 17 | 12 | 15 | 15 | 17 | 17 | 19 | |
| 23 | 23 | 21 | 23 | 25 | 25 | 21 | | 19 | 19 | 19 |

7. What is the total frequency of the given data?

A. 15 B. 20 C. 25 D. 30

8. How many students got a mark of 25?

A. 2 B. 3 C. 4 D. 5

9. How many students got the lowest score in Math test?

A. 1 B. 2 C. 3 D. 4

10. What type of data is this?

A. Average Data
B. Grouped Data
C. Statistical Data
D. Ungrouped Data

***11-12.*** *The following are the results of pulse rates, beats per minute. Complete the frequency table below then answer the following questions?*

| **Pulse Rates, Beats per Minute** | **Frequency** |
|---|---|
| 85-89 | |
| 80-84 | |
| 75-79 | |
| 70-74 | |
| 65-69 | |
| 60-64 | |
| Total | |

11. How many people were in the survey?

A. 40 B. 50 C. 60 D. 70

12. How many people had a pulse rate of 75-79 beats per minute?

A. 23 B. 24 C. 25 D. 26

***13-15.*** The following are scores obtained by a group of students on their Math VII examination. Prepare a frequency distribution for these data using a class interval of 7 and answer the following questions below.

| | | | | | | |
|---|---|---|---|---|---|---|
| 34 | 45 | 37 | 29 | 20 | 21 | 40 |
| 36 | 20 | 20 | 34 | 45 | 20 | 20 |
| 40 | 40 | 34 | 45 | 40 | 34 | 34 |
| 30 | 30 | 20 | 29 | 36 | 29 | 29 |
| 36 | 30 | 34 | 29 | 21 | 20 | 21 |

13. What is the lowest data value?

A. 20 B. 30 C. 36 D. 45

14. What is the total frequency of the data?

A. 25 B. 30 C. 35 D. 40

15. What is the range of data?

A. 25 B. 26 C. 28 D. 30

# Answer Key

### What I Know

| | | | |
|---|---|---|---|
| 1. B | 6. D | 11. A | |
| 2. A | 7. A | 12. D | |
| 3. D | 8. C | 13. B | |
| 4. B | 9. B | 14. C | |
| 5. B | 10. D | 15. D | |

### What's New

A. 18
B. 19
C. 13
D. 7
E. 11

### What's In

Answers may vary

### Assessment

| | | | |
|---|---|---|---|
| 1. D | 6. D | 11. D | |
| 2. B | 7. B | 12. A | |
| 3. A | 8. A | 13. A | |
| 4. C | 9. A | 14. C | |
| 5. C | 10. D | 15. A | |

*For 11-12*

| Pulse Rates, Beats per Minute | Tally | Frequency |
|---|---|---|
| 85-89 | III | 3 |
| 80-84 | 𝍸 𝍸 IIII | 14 |
| 75-79 | 𝍸 𝍸 𝍸 𝍸 III | 23 |
| 70-74 | 𝍸 𝍸 𝍸 𝍸 I | 21 |
| 65-69 | 𝍸 II | 7 |
| 60-64 | II | 2 |
| Total | | 70 |

*For 13-15*

| Class Interval | Tally | Frequency |
|---|---|---|
| 20-26 | 𝍸 𝍸 | 10 |
| 27-33 | 𝍸 III | 8 |
| 34-40 | 𝍸 𝍸 IIII | 14 |
| 41-47 | III | 3 |
| | TOTAL | 35 |

### What I have learned

1. Frequency
2. Observation method
3. Experiment method
4. Frequency method
5. Interview method

### What I Can Do

**A**

1. B
2. D
3. A
4. E
5. C

**B.**

| Number of Computer Units Sold | Tally | Frequency |
|---|---|---|
| 20 | II | 2 |
| 21 | III | 3 |
| 22 | I | 1 |
| 23 | II | 2 |
| 24 | II | 2 |
| 25 | III | 3 |
| 26 | IIII | 4 |
| 27 | II | 2 |
| 28 | II | 2 |
| 29 | II | 2 |
| 30 | II | 2 |
| TOTAL | | 25 |

2. 26 3. 22

**C.**

| Weights (kg) | Frequency |
|---|---|
| 38 – 45 | 8 |
| 46 – 53 | 17 |
| 54 – 61 | 11 |
| 62 - 69 | 4 |
| | 40 |

2. 4 3. 25

**D.**

Answers may vary

### What's More

**A.**

1. B
2. D
3. A
4. E
5. C

**B.**

1. SCIENCE
2. ENGLISH
3. 11

| Subjects | Tally | Frequency |
|---|---|---|
| English | 𝍸 II | 7 |
| Mathematics | 𝍸 𝍸 I | 11 |
| Science | 𝍸 𝍸 𝍸 𝍸 | 20 |
| Filipino | 𝍸 𝍸 III | 13 |
| TLE | 𝍸 𝍸 IIII | 14 |
| MAPEH | 𝍸 𝍸 𝍸 II | 17 |
| TOTAL | | 82 |

**C**

1. 75 – 79
2. 14
3. 26

| Pulse Rates (Beats per Minute) | Tally | Frequency |
|---|---|---|
| 85 - 89 | 𝍸 III | 8 |
| 80 - 84 | 𝍸 I | 6 |
| 75 - 79 | 𝍸 𝍸 𝍸 | 20 |
| 70 - 74 | 𝍸 𝍸 | 15 |
| 65 - 69 | 𝍸 II | 7 |
| 60 - 64 | IIII | 4 |
| TOTAL | | 60 |

# *References*

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