

## Unit 12 - Data Analysis and Probability Review Guide

Find the elements of the following matrices

$$M = \begin{bmatrix} 2 & 6 & 5 \\ -3 & 2 & -3 \\ -2 & 1 & 1 \end{bmatrix}$$

1. Find  $M_{12}$  =

2. Find  $M_{31}$  =

**Solve Problems involving matrices**

The Matrix below shows the number of students enrolled in Literature, English and History.

	L	E	H
M	220	224	210
F	353	300	250

3. How many Females are enrolled in history?

4. How many males are enrolled in English?

5. How many are enrolled in History or Literature?

## Unit 12 - Data Analysis and Probability Review Guide

### Construct a Frequency Distribution Table.

The following are score of class Z in statistics quiz:

20	19	18	19	17
35	30	40	30	17
25	10	33	27	18

6. Find the Range.

7. Compute for the intervals.

8. Find the Class Size.

9. Construct a frequency table.

10. Draw a frequency histogram.

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

## Unit 12 - Data Analysis and Probability Review Guide

Solve problems involving measures of central tendency and variability.

The following are scores of 13 students in Algebra quiz: 3, 20, 18, 17, 6, 14, 11, 11, 15, 27, 23, 25, and 28.

11. Find the Mean.

12. Find the Median.

13. Find the Mode.

14. Find the Range.

15. Find the Variance.

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

## Unit 12 - Data Analysis and Probability Review Guide

**Solve problems involving box-and-whisker plots.**

The following are scores of 13 students in Algebra quiz: 3, 20, 18, 17, 6, 14, 11, 11, 15, 27, 23, 25, and 28

Given the same data from above

16. Find the Quartile 1.

17. Find the Quartile 3

18. What is the difference between the second and the third quartile?

19. What is the difference between the first and second quartile?

20. Draw box-and-whisker plots.

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

## Unit 12 - Data Analysis and Probability Review Guide

Solve problems involving Samples and Surveys.

A Super market wants to conduct a survey about costumer service; the number of visitor of the super market per week is about 1000 visitor.

21. What type of data is needed in this study? (Quantitative, Qualitative)

22. What is the best way to conduct this survey? (Direct Interview, Indirect Interview, Observation, Experiment)

23. What is the best sampling technique to use in this survey? (Simple random, Purposive, Convenient)

24. Find the sample of the population at 5% margin of error.

Solution:

25. Find the sample of the population at 1% margin of error.

Solution:

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

## Unit 12 - Data Analysis and Probability Review Guide

**Solve problems involving permutation and combination.**

26. There are two math books, three science books and 1 English book in the shelf. In how many ways can the book be arranged if the two math book is next to each other.

27. How many different ways can the letter of the word "MATHEMATICS" be arranged?

28. How many 6 letter and number Password Can be made from A - Z and 0 - 9?

**There are 10 males and 8 females. How many 5-member committees can be formed if**

29. A committee is composed of all male members?

30. A committee is composed of 2 males and 3 females?

Name: \_\_\_\_\_ Period: \_\_\_\_\_ Date: \_\_\_\_\_

## Unit 12 - Data Analysis and Probability Review Guide

Solve problems involving Theoretical and Experimental Probability.

31. What is the probability of getting 3 heads when tossing 3 coins?

32. What is the probability of drawing a number between 5 and 9 in a 52 card deck of card?

33. What is the probability of getting a double number in rolling a pair of dice?

From a deck of cards, four cards are drawn at random. What is the probability that

34. All cards are Red?

35. All cards are flower?

## Unit 12 - Data Analysis and Probability Review Guide

Solve problems involving Probability of compound events.

The data below are the distribution of students in class Y and their preferred elective.

Gender/ elective	Robotics (R)	Foreign Language (F)	Baking (B)	Total
Male (M)	15	5	5	<b>25</b>
Female (F)	5	15	10	<b>30</b>
<b>Total</b>	<b>20</b>	<b>20</b>	<b>15</b>	<b>55</b>

36.  $P(F \cup B)$

37.  $P(M \cup R)$

38.  $P(F \cap B)$

39. Inside a Jar there are 10 candies, 15 chocolates, and 5 gums. What is the probability that gums or candies will be selected?

40. What is the probability of drawing a red card or a king?