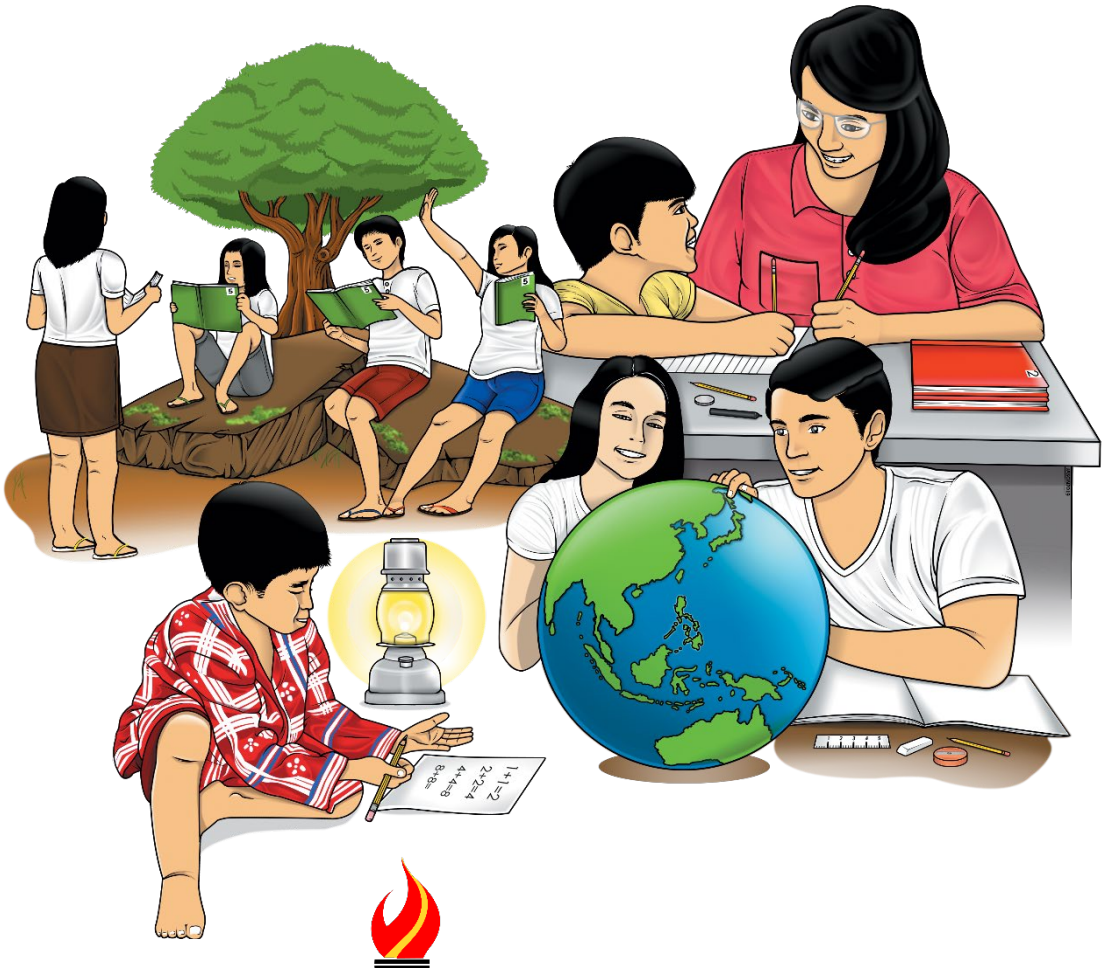
Senior High School

DepED
DEPARTMENT OF EDUCATION

General Mathematics

Quarter 1 – Module 4:
Solving Real- Life Problems Involving Functions



ALTERNATIVE DELIVERY MODE
ADM

General Mathematics
Alternative Delivery Mode
Quarter 1 – Module 4: Solving Real- Life Problems Involving Functions
First Edition, 2021

Published by the Department of Education
Secretary: Leonor Magtolis Briones
Undersecretary: Diosdado M. San Antonio

Development Team of the Module

Writers: Rey Mark R. Queaño and Ann Michelle M. Jolo

Editors: Elizabeth B. Dizon, Anicia J. Villaruel and Roy O. Natividad

Reviewers: Fritz A. Caturay, Necitas F. Constante, Dexter M. Valle,
Jerome A. Chavez, Azenith G. Mercado and Ceclia A. Ong

Illustrator: Dianne C. Jupiter

Layout Artist: Noel Rey T. Estuita and Sayre M. Dialola

Management Team: Francis Cesar B. Bringas
Job S. Zape, Jr.
Ramonito Elumbaring
Reicon C. Condes
Elaine T. Balaogan
Fe M. Ong-ongowan
Hermogenes M. Panganiban
Phillip B. Gallendez
Josephine T. Natividad
Anicia J. Villaruel
Dexter M. Valle

Printed in the Philippines by _____

Department of Education – Region 4-A CALABARZON

Office Address: Gate 2 Karangalan Village, Brgy. San Isidro, Cainta, Rizal
Telefax: 02-8682-5773/8684-4914/8647-7487
E-mail Address: lrmd.calabarzon@deped.gov.ph

Senior High School

General Mathematics

Quarter 1 – Module 4:
Solving Real-Life Problems Involving Functions

DepED
DEPARTMENT OF EDUCATION

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.

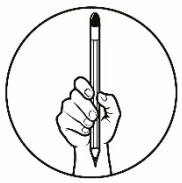
What I Need to Know

This module was designed and written to help you solve problems involving functions bearing in mind that you already know how to represent real – life situation using functions including piece-wise functions, evaluate functions and perform operations on functions. These skills will aid you in attaining success on this module.

Solving problems involving functions is essential in predicting values that will help in decision making process. This module covers varied situations that can be seen in real life such as travel fares, monthly bills sales and the like. It is hoped that upon exploring this learning kit you will find the eager and enthusiasm in completing the task required. Best of luck!

After going through this module, you are expected to:

1. represent situations as functions and evaluate functions to determine the required quantity
2. apply concepts learned in solving real-life problems involving functions
3. solve problems involving functions



What I Know

Choose the letter of the best answer and write it on a separate sheet of paper

1. Given $h(x) = \frac{5x-6}{3}$, determine $h(3)$
   a. -3
   b. 3
   c. 1
   d. -1

2. Let $f(x) = 3x^2 - x + 5$, find $f(x + 1)$
   a. $3x^2 + 5x + 5$
   b. $3x^2 + 5x + 7$
   c. $3x^2 - x + 9$
   d. $3x^2 + 5x + 9$

3. Which of the following expresses the total earnings *(E)* as a function of the number (*n*) of days if a laborer works and earning ₱400.00 per day?
   a. E*(n)* = 400 + n
   b. E*(n)* = 400 ÷ n
   c. E*(n)* = 400(n)
   d. E*(n)* = 400 – n

4. If the temperature in degrees Celsius inside the Earth is represented by T*(d)* = $10d$ + 20 where *(d)* is the depth in kilometers, what is the temperature inside the Earth in 10 kilometers?
   a. 40℃
   b. 50℃
   c. 120℃
   d. 180℃

5. Express the perimeter *P* of a square with side x as a function of its area.
   a. $A = \frac{P^2}{16}$
   b. $A = 16P^2$
   c. $A = \frac{P^2}{4}$
   d. $A = \frac{16}{P^2}$

For numbers 6 – 7 use the problem below:

Cotta National High School has 1,200 students enrolled in 2016 and 1,500 students in 2019. The student population P grows as a linear function of time *(t)*, where *t* is the number of years after 2016.

6. Which of the following functions represents the student population that relates to time *t*?
    a. P*(t)*= 100t + 1,200
    b. P*(t)* = 1,200t -100
    c. P(*t)* = 1,200t + 100
    d. P*(t)* = 100t – 1,200

7. How many students will be enrolled in Cotta National High School by 2020?
    a. 1,800
    b. 1,700
    c. 1,600
    d. 1,650

For numbers 8 – 10 use the problem below:

A proposed tricycle fare would charge ₱20.00 for the first 5 km of travel and ₱0.75 for each additional kilometer over the proposed fare.

8. Find the fare function *f(x)* where *x* represents the number of kilometers travelled.
    a. *f(x)* = 20 + 0.75x
    b. *f(x)* = 20 - 0.75x
    c. *f(x)* =16.25 + 0.75x
    d. *f(x)* = 6.25 - 0.75x

9. How much is the proposed fare for distance of 3 km?
    a. ₱4.00
    b. ₱8.00
    c. ₱12.00
    d. ₱20.00

10. Find the proposed fare for distance of 55 km.
    a. ₱57.50
    b. ₱91.25
    c. ₱60.50
    d. ₱105.75

11. The cost of producing *x* tools by a B&G Corp. is given by *C(x)*=₱1,200.00*(x)* + ₱5,500.00. How much is 100 tools?
    a. ₱6,700.00
    b. ₱12,550.00
    c. ₱125,500.00
    d. ₱551,200.00

For numbers 12 - 15 use the problem below:

Mark charges ₱100.00 for an encoding work. In addition, he charges ₱5.00 per page of printed output.

12. Find a function f*(x)* where x represents the number of pages of printed out.
    a. $f(x) = 100 + 5x$
    b. $f(x) = 100 - 5x$
    c. $f(x) = 100x + 5$
    d. $f(x) = 100x – 5$

13. How much will Mark charge for 55-page encoding and printing work?
    a. ₱275.00
    b. ₱175.00
    c. ₱375.00
    d. ₱475.00
14. How many pages were printed if Mark received a payment of ₱600.00?
    a. 100 pages
    b. 80 pages
    c. 60 pages
    d. 50 pages

15. If Mark offers a promo to loyal costumer that the first 20 pages of the printed output will be free of charge, how much will he charge to a loyal customer who printed 70 pages of output?
    a. ₱250.00
    b. ₱50.00
    c. ₱350.00
    d. ₱450.00

Lesson 1 Solving Real-Life Problems Involving Functions

Majority of the problems we encounter in real life situation involve relationship between two quantities where one quantity depends on another. For example, personnel in Department of Health observes the number of persons infected by a particular virus in a certain community increases with time. In finding out the exact function relating to the number of persons infected to time, modelling can be used. Once the model is determined solving and predicting the properties of the subject being studied can be done. At this point we will focus on solving in order for us to predict answer to existing problems.

What's In

YES I CAN!

Listed below are the skills and competencies you should possess before proceeding to this lesson. Read the statements and assess yourself whether you agree or disagree with the statements.

Statement	Agree	Disagree
1. I can carefully read and analyze a given problem		
2. I can determine the given and the facts required in a problem		
3. I can represent real – life situation using function, including piece –wise function		
4. I can perform operations on functions		
5. I can evaluate functions		

- If you agree with all the statements that means you are very much ready with this module, however if there are some statements where you disagree that means you need to have a quick review of the previous lesson that will aid you in gaining success in this lesson.
  Let us take a quick tour to what you learn in the previous modules

1. Being able to understand a problem presented is the first thing that we learn on how to solve problems in Mathematics. Careful reading leads you to thorough analysis in the identification of given facts and in determining the required or the unknown quantity. Precise label of the known and unknown quantities will help you set up a direction towards the solution.

2. A function is a rule of correspondence between two non-empty sets, such that to each element of the first set called domain, there corresponds one and only one element of the second set called range.

3. Functions are used to model real-life situations and in representing real-life situations the quantity of one variable depends or corresponds to or mapped onto another quantity.

4. Piece-wise function are functions that may be represented by a combination or of equations.

5. If a function f is defined by $y = f(x)$ and an independent variable x is found by substituting x into the function rule then it undergoes a process of evaluating function. Moreover, you also studied fundamental operation can be applied to two or more functions to form a new function. Such operations are addition, subtraction, multiplication and division.

Consider the examples below and reflect if you are confident enough to proceed

1. Write a function C that represent the cost of buying x facemask, if a facemask cost ₱65.00
   $C(x) = 65x$

2. A commuter pays ₱ 9.00 for a jeepney fare for the first 5 km and an additional ₱ 0.75 for every succeeding distance d in kilometer. Represent the situation as function
   $F(d) = 9$, if $0 < d \leq 5$
   $F(d) = 9 + 0.75(d)$, if $d > 5$

3. If $f(x) = x + 6$, evaluate: a. $f(4)$ b. $f(-2)$ c. $f(-x)$

   Solution: a. $f(x) = x + 6$ b. $f(x) = x + 6$ c. $f(x) = x + 6$
   $f(4) = 4 + 6$ $f(-2) = (-2) + 6$ $f(-x) = -x + 6$
   $f(4) = 10$ $f(-2) = 4$

4.Le $f(x) = x + 3$t and $g(x) = x - 2$. Find a. $f(3) + g(-2)$ b. $f(4) - g(0)$

c. $f(x) \cdot g(x)$ d. $\frac{f(9)}{g(8)}$

Solution:

a. $f(x) = x + 3$ $\quad g(x) = x - 2$

$f(3) = 3 + 3$ $\quad g(-2) = (-2) - 2$

$f(3) = 6$ $\quad g(-2) = -4$

$f(3) + g(-2) = 6 + (-4)$

$f(3) + g(-2) = 2$

b. $f(x) = x + 3$ $\quad g(x) = x - 2$

$f(4) = 4 + 3$ $\quad g(0) = 0 - 2$

$f(4) = 7$ $\quad g(0) = -2$

$f(4) - g(0) = 7 - (-2)$

$f(4) - g(0) = 9$

c. $f(x) = x + 3$ $\quad g(x) = x - 2$

$f(x) \cdot g(x) = (x + 3)(x - 2)$

$f(x) \cdot g(x) = x^2 + x - 6$

d. $f(x) = x + 3$ $\quad g(x) = x - 2$

$f(9) = 9 + 3$ $\quad g(8) = 8 - 2$

$f(9) = 12$ $\quad g(8) = 6$

$$\frac{f(9)}{g(8)} = \frac{12}{6} = 2$$

At this point you may now proceed to the next section of this module!

Notes to the Teacher

The teacher may also point out the importance of the concept of zero of linear function in solving problems involving functions. The zero of a linear function *f(x) is the real number a such that f(a)=0.* This suggest that the zero of linear function is found by equating it to zero and then solving the resulting equation for x. This will be used in the latter example in the module.

What's New

JEEPNEY OR TRICYCLE?

Read and analyze the problem below.

Miguel is a senior high school student who commutes from home to school which is 15 km apart. There are two modes of transportation the first one is through jeep and the other one is through tricycle. In riding a jeepney the fare charge ₱9.00 for the first 4 km travel and ₱0.75 for each additional kilometer. Meanwhile in riding a tricycle the fare would be ₱10.00 for the first km travel and ₱1 for each additional kilometer.

Will you help Miguel analyze his situation?

Questions

1. If you are Miguel and decided to ride in a jeepney, how much will be your fare? _____
   Hint: You may use the table below to compute the fare

No. of km	0-4	5	6	7	8	9	10	15
Amount charge	9	9+ 0.75	9.75+ 0.75					

2. If you decided to ride in a tricycle how much will be your fare? _____
   Hint: You may use the strategy in no. 2

3. What characteristics does Miguel possess if he chose to ride a jeepney?
   _____

4. Is there any advantage in riding a jeepney instead of tricycle? Or riding a tricycle instead of jeepney? What would it be?
   _____

5. If you are Miguel which between the two modes of transportation will you choose? Why? _____

What is It

Decision making is always part of our lives, from the moment we wake-up we start to decide the proper action to undertake be it minor or major decisions. In the problem presented, Miguel is about to consider the jeepney and tricycle fare in making decision. He will only pay ₱17.25 in a jeepney while ₱24.00 in a tricycle. With this, it will be more economical if he will choose to ride in a jeepney. However, the cost of the fare is just one of the factors. There are times that convenience is also considered in choosing the mode of transportation. Aside from not being crowded and you can reach your destination faster. Therefore, in deciding the mode of transportation the priority of the commuters whether to be more economical or to meet convenience is considered.

In the previous problem we determine the cost of the fare by using a table wherein we repeatedly add the fare charge per kilometer. Thus, this type of problem can be solved using functions, and at this point let us determine how we are going to do that.

Example no. 1

LET'S TRAVEL

A proposed Light Rail Transit System Line 1 (LRT-1) fare would charge ₱18.00 for the first four stations and ₱5.00 for each additional station over the proposed fare.

a. Find the fare function *f(x)* where *x* represents the number of stations traveled
b. Find the proposed fare for 15 stations
c. Find the proposed fare for 20 stations

To solve problems that involve functions you can employ George Polya's 4-step rule.

George Polya's 4 – Step Rule

1. **Explore.** This step involves careful reading, analyzing, identifying the given and unknown facts in the problem and expressing the unknown in terms of variables.
2. **Plan**. In this step writing an equation that describes the relationships between or among the variables is involve.
3. **Solve**. This step requires working out with the written equation and other number relations to determine the required quantities that answer the question in the problem.
4. **Check.** The final step that employ the use of other approaches to examine the appropriateness of the answer.

Solution

a. **Explore.** Since the first step involves analysis and proper labeling of the known and unknown facts we will let x = number of stations traveled. There are also some conditions that was set in the problem such as the cost of fare which is set up to 4 stations only thus we can represent $x - 4$ = number of stations traveled over and above 4 stations

Plan. In writing an equation that will represent the relationship between the known and unknown quantities, since we know that if we travelled up to 4 stations we must pay P18, we can represent it as
$f(x) = 18$ for $0 < x \leq 4$

However, if we travelled more than 4 stations the cost of the fare have different method of computation so we need to consider it. Since the cost of every station after the 4th station is ₱5.00 we will now obtain
$f(x) = 18 + 5(x - 4)$

Now simplifying the equation will lead us to:
$f(x) = 18 + 5x - 20$
$f(x) = 5x - 2$

At this point we can say that the fare function is $f(x) = 5x - 2$

b. **Solve.** To find the fare charge for 15 stations the fare function $f(x) = 5x - 2$ will be used and 15 will be substituted to the function
$f(15) = 5(15) - 2$
$= 73$
By evaluating the function we obtained $f(15) = 73$

Check. To check whether we arrived at the correct solution you can use table or graph.
Thus. the proposed fare for 15-station travel is *₱73.00*

c. $f(20) = 5\ (20) - 2$
$= 98$

The proposed fare for 20 – station travel is *₱98*

Example no. 2

BINGE WATCH

Lucena Network charges ₱450.00 monthly cable connection fee plus ₱130.00 for each hour of pay-per-view (PPV) event regardless of a full hour or a fraction of an hour.

a. Find payment function *f(x)* where *x* represents the number of PPV hours.
b. What is the monthly bill of a customer who watched 25 hours of PPV events?
c. What is the monthly bill of a customer who watched 0.5 hour of PPV events?

Solution:

a. ₱450.00 = fixed monthly cable connection fee
   Let *x* = number of PPV hours in a month
   ₱130.00(x) = amount of PPV payment in a specific hour

   The payment function is f(x) = 450 + 130(x).

b. The monthly bill of a customer who watched 25 hours PPV events can be represented by $24 < x \leq 25$.

$f(x) = 450 + 130(x).$

$f(25) = 450 + 130(25)$

$= 450 + 3{,}250$

$= 3{,}700$

The monthly bill of a customer who watched 25 hours of PPV event is ₱3,700.00

c. The monthly bill of a customer who watched 0.5 hour PPV events can be represented by $0 < x \leq 1$ and since the problem states that regardless of a full hour or a fraction of an hour the additional charge will be made on hourly basis only, thus the value of *x* will be 1

$f(x) = \text{Php } 450.00 + \text{Php } 130.00(x).$

$f(1) = \text{Php } 450.00 + \text{Php } 130.00(1)$

$= \text{Php } 450.00 + \text{Php } 130.00$

$= \text{Php } 580.00$

What's More

Read each situation carefully to solve each problem. Write your answer on a separate sheet of your paper.

Independent Practice 1

Business As Usual

Bakers' Club is trying to raise funds by selling premium chocolate chip cookies in a school fair. The variable cost to make each cookie is ₱15.00 and it is being sold for ₱25.00 So far the organization has already shelled out ₱790.00 for the cookie sale

a. Find the profit function *P(x)* where *x* represents the number of cookies sold
Hint: Profit = Total Revenue – Total Cost
Total Revenue = Price per unit x quantity sold
Total Cost = Total variable cost + fixed cost

_____

b. If 146 cookies were sold, how much is the total profit?

_____

c. How many cookies must be made and sold to break even?
Hint: Break even point is the zero of P(x)

_____

d. How many cookie should be sold to gain a profit of ₱250.00?

_____

Independent Assessment 1

Baker's Nook

Elisha just opened a bakery along Macalintal Avenue which sells fresh doughnuts. The selling price is ₱20.00 per doughnut and the cost of making it is ₱8.00 The daily operating expense is ₱600.00.

a. Find the profit function P*(x)* where *x* represent the number of doughnuts sold.
b. If 100 doughnuts were sold, what is the total profit?
c. How many doughnuts must be made and sold to break even?
d. How many doughnuts should be sold to gain a profit of ₱600.00?

Independent Practice 2

Hello!

A certain cellphone company offers a plan that costs ₱1,200.00 per month. The plan includes 180 free minutes of call and charges ₱7.00 for each additional minute of usage.

a. Find the monthly cost function *C(x)* where *x* represents the number of minutes used.
Hint: Monthly Cost = Plan Cost + Additional Charge per Minute
_____

b. How much is the monthly cost incurred if the owner used 180 minutes of call?_____

c. How much is the monthly cost of the plan if the owner used 300 minutes of call?_____

Independent Assessment 2

Connected!

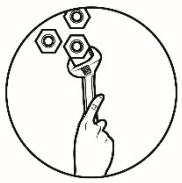
CATV Lucena costs ₱1,500.00 a month which also includes 15 GB of data monthly. It charges ₱50.00 for each additional gigabytes usage. Find the monthly cost incurred if the owner used 45 GB of data in a month.

What I Have Learned

According to Alice Hoffman every problem has a solution. In finding the solution one important aspect to consider is the "how" or the process of finding it. In solving problems involving functions there are different process that we can employ to attain the solution.

In three to five sentences write the process that you follow in solving problems involving functions.

_____
_____
_____
_____
_____
_____



What I Can Do

You wanted to join a booth fair, and you are aiming to get a profit that is twice as your capital. Your starting capital is ₱15,000.00. Make a financial plan for the booth that you will set up and the product that you will sell. You may use the sample plan below:

FINANCIAL PLAN

Product: _____

Description of product: _____

Goal: _____

Capital: ₱15,000.00

Fixed Cost (Labor, Machineries, Expenses for the booth etc): _____

Variable Cost (Materials, Ingredients, etc): _____

Profit function: _____

Prove that profit function will yield an amount that is twice the capital

_____

_____

Rubrics for the Task

Categories	Excellent 3	Fair 2	Poor 1
Budgeting	Excellent understanding in creating a plan for spending the money	Some understanding in creating a plan for spending the money	Little to no understanding in creating a plan for spending the money
Planning	The goal set is achievable and realistic	The goal set is hard to achieve	The goal set is not achievable and not realistic
Accuracy of Solution	The computation in obtaining the desired profit using the profit function is correct	The computation in obtaining the desired profit using the profit function has flaws	There is no attempt in computing the desired profit using the profit function

Assessment

Multiple Choice. Choose the letter of the best answer and write it on a separate sheet of paper

For numbers 1- 5 use the problem below:
Emmanuel decided to put up a candy shop that sells a dairy chocolate that cost ₱135.00 per pack. The cost of making the chocolate is ₱90.00 and the operating expense is ₱4,500.00

1. Which of the following pertains to the profit function?
   a. $P(x) = 45x - 4,500$
   b. $P(x) = 225x - 4,500$
   c. $P(x) = 45x + 4,500$
   d. $P(x) = 225x + 4,500$

2. How many packs of dairy chocolate must be sold to break even?
   a. 50
   b. 100
   c. 150
   d. 200
3. Which value of x will make Emmanuel's candy shop suffer loss for selling packs of chocolates?
   a. $X > 100$
   b. $x \leq 100$
   c. $x < 100$
   d. $x \geq 100$

4. How many chocolate bars must be sold if Emmanuel wanted to earn a profit of ₱6,750.00?
   a. 100
   b. 150
   c. 250
   d. 350

5. How much is the gain if Emmanuel sold 350 packs of chocolates?
   a. ₱6,750.00
   b. ₱9,750.00
   c. ₱11.250.00
   d. ₱15,250.00

For numbers 6- 10 use the problem below
Mariel wanted to avail a cellphone plan that offers a monthly fee of ₱2,500.00. It includes 240 minutes of call and charges ₱7.50 for each additional minute of usage.

6. Which of the following pertains to the monthly cost function?
    a. $C(x) = 2{,}500 - 1800x$
    b. $C(x) = 2{,}500 + 1800x$
    c. $C(x) = 700 + 7.50x$
    d. $C(x) = 700 - 7.50x$

7. What value of x will not require any additional charge in her monthly bill?
    a. $x > 240$
    b. $x < 240$
    c. $x \geq 240$
    d. $x \leq 240$

8. How many additional minutes of call did she make, if she paid ₱2,800.00 in her monthly bill?
    a. 20 minutes
    b. 40 minutes
    c. 60 minutes
    d. 80 minutes

9. How much is her monthly cost incurred if she made an additional usage of 20 minutes of call?
    a. ₱2,500.00
    b. ₱2,600.00
    c. ₱2,650.00
    d. ₱3,350.00

10. How much will she need to pay from using a total of 350 minutes of call in one month?
    a. ₱950.00
    b. ₱2,610.00
    c. ₱3,325.00
    d. ₱4,325.00

For numbers 11- 15 use the problem below
A local cable network charges ₱950.00 monthly connection fee plus ₱100.00 for each hour of pay-per-view (PPV) event regardless of a full hour or a fraction of an hour.

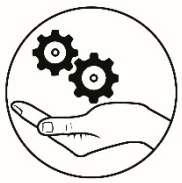
11. Which of the following pertains to the payment function suggested in the problem?
    a. $f(x) = 100x + 950$
    b. $f(x) = 100x - 950$
    c. $f(x) = 950x + 100$
    d. $f(x) = 950x - 100$

12. What is the monthly bill of a customer who watched 20 hours of PPV events?
    a. ₱2,950.00
    b. ₱3,950.00
    c. ₱4,950.00
    d. ₱5,950.00

13. How much is the monthly bill of a customer who watched 0.5 hours of PPV events?
    a. ₱950.00
    b. ₱1,050.00
    c. ₱2,050.00
    d. ₱3,050.00

14. What will be the monthly bill of a customer who watched 12.3 hours of PPV events?
    a. ₱1,250.00
    b. ₱2,250.00
    c. ₱3,250.00
    d. ₱4,250.00

15. How many hours did a customer watched PPV events if the monthly payment is ₱1,450.00?
    a. 2 hours
    b. 3 hours
    c. 4 hours
    d. 5 hours



Additional Activities

To practice your skills in solving problems involving functions the exercises below is for you.

Read and solve the problem.

Mall Goers

1. Inter Global Mall charges ₱30.00 for the first hour or a fraction of an hour for the parking fee. An additional ₱15.00 is charged for every additional hour of parking. The parking area operates from 7am to 12 midnight everyday.

    a. Write a function rule for the problem

    b. How much will be charged to the car owner if he parked his car from 7am to 3pm?

    c. How much will be charged to a car owner who parked his car from 9am to 11:30pm?

Geometry

A man with 200 ft. of fencing material wishes to fence off an area in the shape of a rectangle. What should be the dimensions of the area if the enclosed space is to be as large as possible? What is the largest area?
Hint: $A = lw$, $P = 2l + 2w$

Answer Key

Assessment

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

What's More

Independent Practice 1

a. $P(x) = 10x - 790$

b. ₱670.00

c. 79 cookies

d. 104 cookies

Independent Assessment 1

a. $P(x) = 12x - 600$

b. ₱600.00

c. 50 doughnuts

d. 100 doughnuts

Independent Practice 2

a. $C(x) = 7x - 60$

b. ₱1,200.00

c. ₱2,040.00

Independent Assessment 2

₱3,000.00

What I Know

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

References

Orines, Fernando B., Next Century Mathematics. (Quezon City, Phoenix Publishing House, 2016) 48 – 54

Orines, Fernando B, Espargo, Mirla S. Reyes, Nestor V., Advanced Algebra, Trigonometry and Statistics (Quezon City, Phoenix Publishing House Inc.,1999)130

Santos, Durwin C. & Biason Ma. Garnet P., Math Activated: Engage Yourself and Our World General Math. (Makati City, Salesiana Books by Don Bosco Press, Inc., 2016) 21 - 27

For inquiries or feedback, please write or call:

Department of Education - Bureau of Learning Resources (DepEd-BLR)

Ground Floor, Bonifacio Bldg., DepEd Complex
Meralco Avenue, Pasig City, Philippines 1600

Telefax: (632) 8634-1072; 8634-1054; 8631-4985

Email Address: blr.lrqad@deped.gov.ph * blr.lrpd@deped.gov.ph