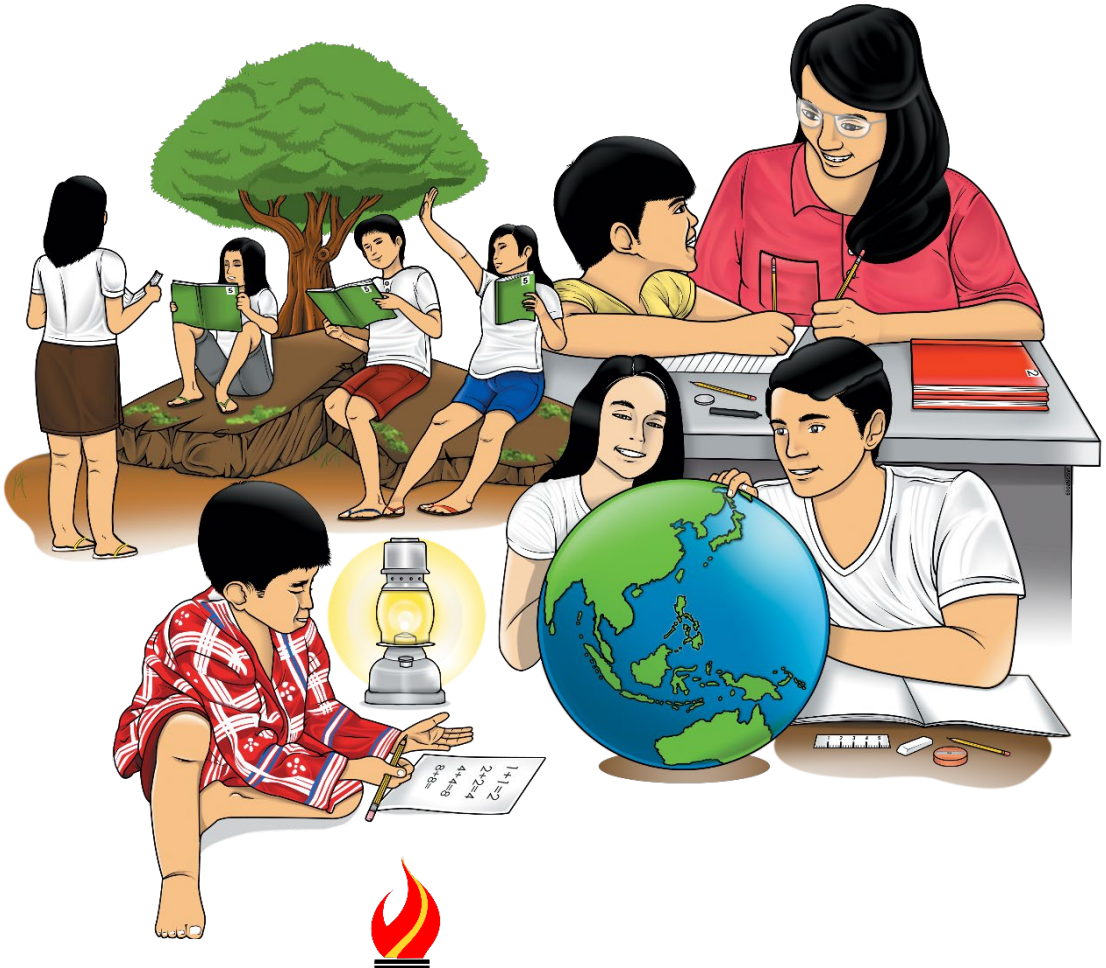
Senior High School

DepED
DEPARTMENT OF EDUCATION

General Mathematics

Quarter 2 – Module 7:
Deferred Annuity



ALTERNATIVE DELIVERY MODE
ADM

General Mathematics – Senior High School
Alternative Delivery Mode
Quarter 2 – Module 7: Deferred Annuity
First Edition, 2020

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

Development Team of the Module

Writers: Jenn Wynzel L. Derecho and Moahna Aura M. Mancenido

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

Reviewers: Fritz A. Caturay, Necitas F. Constante, Dexter M. Valle, Jerome A. Chavez, Edmund Actub, John Lester F. Guerero

Illustrator: Hanna Lorraine Luna and Diane C. Jupiter

Layout Artist: Roy O. Natividad, Sayre M. Dialola, Noel Rey T. Estuita, Argie L. Ty

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 IV-A CALABARZON

Office Address: Gate 2 Karangalan Village, Barangay San Isidro
Cainta, Rizal 1800
Telefax: 02-8682-5773/8684-4914/8647-7487
E-mail Address: region4a@deped.gov.ph

Senior High School

General Mathematics

Quarter 2 – Module 7:

Deferred Annuity

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.

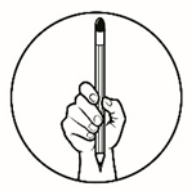
What I Need to Know

Previously, you learned how to solve simple and general annuity. So far, all the problems on finding present and future values only dealt with a single cash flow which is either invested at the start (for future value problems) or to receive at the end (for present value problems). However, most of the financial events happening in people's lives rarely happen in just a single event. It is common for workers to receive their salary twice a month or monthly, to pay loans, electricity, water, phone, and other utility bills monthly, and likewise, be able to set aside savings regularly with these normal routines in mind, it is then important to be able to set up a method to efficiently compute the future and the present value of a regular stream of cash flows.

This module will help you understand and explore deferred annuity or an annuity whose payments do not necessarily start at the beginning or at the end of the next compounding period. Example of which is the monthly pension that will start after five years if a certain employee avails the five-year lump sum upon retirement.

After going through this module, you are expected to:

1. calculate the present value and period of deferral of a deferred annuity; and
2. construct a time diagram for a deferred annuity.



What I Know

Let's find out how far you might already know about this topic! Please take this challenge! Have Fun!

Directions: Choose the letter of the best answer. Write the chosen letter on a separate sheet of paper.

1. A credit card company offers a deferred payment option for the purchase of any appliance. Rose plans to buy a smart television set with monthly payment of ₱ 4,000.00 for two years. The payment will start at the end of 3 months. If it is 10% compounded monthly, what is the period of deferral?
   a. 1
   b. 2
   c. 3
   d. 4

2. What are the actual payments should Rosa make in the situation in question number 1?
   a. 2
   b. 4
   c. 24
   d. 26

3. What is the present value of the television set in the situation in question number 1?
   a. ₱ 30,519.20
   b. ₱ 78,716.74
   c. ₱ 85,260.53
   d. ₱ 143,519.84

4. What is the period of deferral if monthly payment of ₱ 2,000.00 for 8 years will start 6 months from now?
   a. 4
   b. 5
   c. 6
   d. 9

5. Which of the following annuity below does not begin until a given time interval has passed?

a. Simple Annuity
c. Deferred Annuity
b. General Annuity
d. Contingent Annuity

6. A new businessman's debt is to be paid by regular payments of ₱ 25,000.00 paid at the end of every 3 months for 8 years for his products. The first payment will be done after 3 years. How may periods of deferral are there?

a. 5
c. 11
b. 7
d. 12

7. A father decided to own a lot only as debt that is to be paid by regular payments of ₱ 3500.00 paid at the end of every 2 months for 5 years. The first payment is due at the end of one year. How many periods of deferral are there?

a. 2
c. 10
b. 5
d. 12

8. What is the present value of a deferred annuity of ₱ 30,000.00 at the end of every year for 10 years if the first payment of a mother will be done at the end of the second year, and the money is compounded at 3% annually?

a. ₱ 244,354.12
c. ₱ 278,520.14
b. ₱ 248,452.51
d. ₱ 291,245.18

9. What is the period of deferral if semi-annual payment of ₱ 12,000.00 for 10 years that will start 5 years from now?

a. 5
c. 10
b. 9
d. 11

10. Mariel purchased a smart television set through the credit cooperative of their company. The cooperative provides an option for a deferred payment. Mariel decided to pay after 2 months of purchase. Her monthly payment is computed at ₱ 3,800.00 payable in 12 months. If the interest rate is 12% convertible monthly, what is the period of deferral?

a. 1
c. 3
b. 2
d. 12

11. What is the present value of the television set in the situation in question number 10?

a. ₱ 41,800.00
c. ₱ 42,345.84
b. ₱ 41,854.14
d. ₱ 46,816.00

12. An employee, preparing for his retirement 20 years from now, agreed to pay an insurance company ₱ 20,000.00 every year until retirement in exchange of yearly pension for 25 years. If the insurance company puts the payment in an account providing 2.3% annual compound interest, how much yearly pension can he receive?

a. ₱ 26,559.85
C. ₱ 31,254. 12
b. ₱ 29,457.63
D. ₱ 32,127.23

13. What is the period of deferral if an employee makes a semi-annual payment employee of ₱ 11,500.00 for 10 years which will start 5 years from now?

a. 20
c. 9
b. 10
d. 5

14. An agricultural loan is to be repaid quarterly for 5 years that will start at the end of 2 years. If the interest rate is 6% converted quarterly, how much is the loan if the quarterly payment is ₱ 10,000.00?

a. ₱ 154,694.03
c. ₱ 163,215.12
b. ₱ 157,455.08
d. ₱ 173,234.05

15. Ana converted her loan to light payments which gives her an option to pay ₱ 1,500.00 every month for 2 years. The first payment is due 3 months from now. How much is the amount of the loan if the interest rate is 9% converted monthly?

a. ₱ 29,245.60
c. ₱ 32,105.25
b. ₱ 29,725.55
d. ₱ 32,346.70

Lesson 7

Deferred Annuity

Learning new things like investigating, analyzing, and solving problems involving simple and compound interests and simple and general annuities are important to be financially literate. With these, you can make a wise decision about the value of your money and how to invest your money for maximum benefits.

People are always looking for ways to supplement their existing financial strategies, best investment, continuous growth, and ways to save for retirement for longer periods. A deferred annuity is one tool that can serve just such a purpose. Also, it is a contract with an insurance company that promises to pay the owner a regular income, or a lump sum, at some future date. Investors often use deferred annuities to supplement their other retirement income or benefits, such as Social Security (retirement, disability, and supplemental benefits. If you have several years until retirement, a deferred annuity could make sense for you.

A deferred annuity can be a long-term investment in which you invest a sum of money, then receive payments several years down the line after the initial sum has accrued interest. Also, it can be a contract with an insurance company that promises to pay the owner a regular income, or a lump sum, at some future date. It come in several types-fixed, indexed, and variable-which determine how their rate of return is computed.

What's In

Review the definition of terms:

Annuity. It is a sequence of equal payments (or deposits) made at a regular interval of time.

Annuity Immediate or Ordinary Annuity. It is a type of annuity in which the payments are made at the end of every period.

$P = R\left[\frac{1-(1+j)^{-n}}{j}\right]$

Review on how to calculate the present value of an annuity immediate or ordinary annuity:

Scenario 1. Suppose a senior high school student wants to purchase a cellular phone for online learning. He decided to pay monthly for 1 year starting at the end of the month. How much is the cost of the cellular phone if his monthly payment is ₱ 2,500.00 and the interest rate is 9% compounded monthly?

Solution:

Given periodic payment R = 2,500.00

interest rate per annum $i^{(12)}$ = 0.09

term t = 1 year

number of conversion per year m = 12

Find: P

The interest per period is $j = \frac{i^{(12)}}{m} = 0.0075$

The number of payments is n = mt = 12(1) = 12

The present value of an ordinary annuity is

$$P = R\left[\frac{1-(1+j)^{-n}}{j}\right] = 2500\left[\frac{1-(1+0.0075)^{-12}}{0.0075}\right] = 28,587.28$$

Thus, the cost of the cellular phone now is ₱ 28,587.28

What's New

Recall the previous scenario. What if the senior high school student is considering a different payment scheme to buy the cellular phone? In this scheme, he has to pay ₱ 2,500.00 monthly for 1 year starting at the end of the fourth month. If the interest rate is 9% converted monthly, how much is the cash value of the cellular phone?

In this example, the senior high school student will start paying at the end of the 4th month up to the end of the 15th month. The time diagram for his option is given by:

				2500	2500	...	2500
0	1	2	3	4	5	...	15

Now, how do we get the present value of this annuity?

Step 1

Assume payments are also being made during the period of deferral; in other words, there are no skipped payments. The associate time diagram is:

P =?							
2500	2500	2500	2500	2500	...	R	
0	1	2	3	4	5	...	15

From the previous lesson, the present value P of the ordinary annuity is given by

$$P = R\left[\frac{1-(1+j)^{-n}}{j}\right] = 2500\left[\frac{1-(1+0.0075)^{-15}}{j}\right] = 35,342.49$$

Therefore, the present value P with assumed payments starting the first month up to the fifteenth month is ₱ 35, 342.49

Step 2

Find the present value of the payments made during the period of deferral. Based on the problem, the payments will start at the end of the fourth month thus, there will be 3 payments during the period of deferral.

$$P = R\left[\frac{1-(1+j)^{-n}}{j}\right] = 2500\left[\frac{1-(1+0.0075)^{-3}}{j}\right] = 7,388.89$$

Therefore, the present value P during the period of deferral is ₱ 7,388.89

Step 3

Since the payments in the period of deferral are artificial payments, subtract the present value of these payments from present value P with assumed payments starting the first month up to the fifteenth, thus

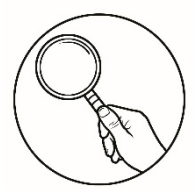
₱ 35,342.49 – ₱ 7,388.89 = ₱ 27,953.60

Thus, the present value of the cellular phone is ₱27,953.60

Recall the present value P of scenario 1 in the first activity which is equal to ₱ 28,587.28. Comparing this to the present value in, What's New activity which is equal to ₱ 27,953.60. It is lower than the present value in the first because the payment in the second scheme will be received on a later date.

Notes to the Teacher

The two payment schemes have the same number of payments n and the same interest rate per period j. Their main difference is the start payments. The first scheme started at the end of the first interval which makes it an ordinary annuity. The second scheme started on a later date. This annuity is called deferred annuity.



What is It

Deferred annuities are series of payments, as they have already learned in the past lessons on annuities but, will start on a later date.

Some examples of this type of annuity in real life.

1. If you will buy an appliance, some big stores or appliances center offers deferred payment.

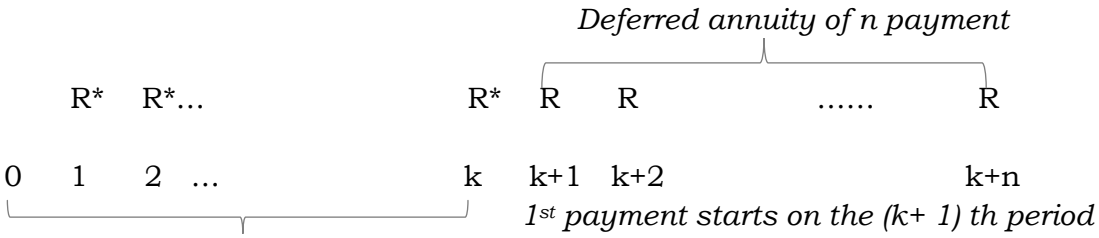
2. A credit card company is offering its clients to purchase today but to start paying monthly with their choice of the term after 3 months.
3. A real estate agent is urging a house and lot buyer to purchase now and start paying after 3 years when the housing unit is ready for occupancy.
4. A worker who has gained extra income now and wants to save his money so that he can withdraw his money monthly starting on the day of his retirement from work.

Deferred Annuity is an annuity that does not begin until a given time interval has passed. It is a kind of annuity which payments (or deposits) starts in more than one period from the present. Likewise, the first payment interval does not coincide with the first interest period and it is put off to some later date.

It may also be considered as an insurance contract designed for long-term savings. Unlike an immediate annuity, which starts annual or monthly payments almost immediately, investors can delay payments from a deferred annuity indefinitely. During that time, any earnings in the account are tax-deferred.

Period of Deferral is the time between the purchase of an annuity and the start of the payments for the deferred annuity.

Time Diagram for a Deferred Annuity



In this time diagram, the period of deferral is k because the regular payments of R start at time $k + 1$.

The notation R* represents k "artificial payments," each equal to R, but are not actually paid during the period of deferral.

To determine the present value of a deferred annuity, find the present value of all k + n payments (including the artificial payments), then subtract the present value of all artificial payments.

To get the Present value of a deferred annuity we will follow the formula:

$$P = R\ \frac{1-(1+j)^{-(k+n)}}{j} - R\ \frac{1-(1+j)^{-k}}{j}$$

Where:

R = Present Payment

j = Interest rate per period

n = number of actual payments

k = number of conversation periods in the deferral or number of artificial payments

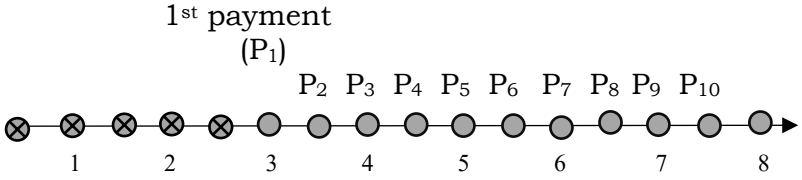
Example 1

Find the present value of 10 semi-annual payments of ₱ 2,000.00 each if the first payment is due at the end of 3 years and money is worth 8% compounded semi-annually.

Solution:

Consider an 8-year timeline for the illustration.

To visualize and find d, we have



k = 5 (see circles with x)

Given: R = ₱ 2,000.00 t = 5
r = 8% m = 2

Find: P

Number of artificial payments: k = 5
Number of actual payments: n = mt = (2)(5) = 10
Interest rate per period $j = \frac{i^2}{m} = \frac{.08}{2} = .04$

Using this formula

$$P = R\ \frac{1-(1+j)^{-(k+n)}}{j} - R\ \frac{1-(1+j)^{-k}}{j}$$

$$P = R\ \frac{1-(1+j)^{-(5+10)}}{j} - R\ \frac{1-(1+j)^{-5}}{j}$$

$$= 2000\ \frac{1-(1+j)^{-(5+10)}}{0.04} - 2000\ \frac{1-(1+j)^{-5}}{0.04} \text{ or}$$

$$= 2000\left[\frac{1-(1+0.04)^{-(5+10)}}{0.04} - \frac{1-(1+0.04)^{-5}}{0.04}\right]$$

= ₱ 13,333.13

Example 2

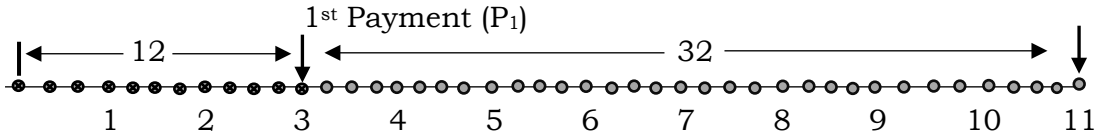
> Find the present value of a deferred annuity of ₱ 1,500.00 every 3 months for 8 years that is deferred 3 years if money is worth 6% converted or compounded quarterly

Solution:

Given: R = ₱ 1500.00 t = 8 years Find: P
r = 6%, m= 4

Number of artificial payments: k = mt = (4)(3) = 12
Number of actual payments: n = mt = (4)(8) = 32
Interest rate per period: $j = \frac{i^4}{m} = \frac{.06}{4} = 0.015$

If you assume that there are payments in the period of deferral, there would be a total of k + n = 12 + 32 = 44 payments



$$P = R\ \frac{1-(1+j)^{-(k+n)}}{j} - R\ \frac{1-(1+j)^{-k}}{j}$$

$$= 1500\left[\frac{1-(1+0.015)^{-(12+32)}}{0.015} - \frac{1-(1+0.015)^{-12}}{0.015}\right]$$

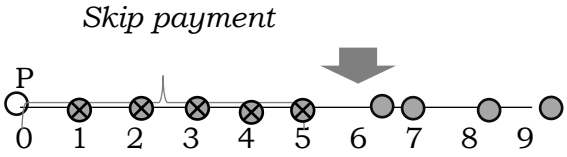
= ₱ 31,699.68

Example 3:

> Find the period of deferral in each of the following deferral annuity problem (one way to find the period of deferral is to count the number of artificial payment (k)

a. Monthly payment of ₱12,000.00 for 9 years that will start 6 months from now.

Consider the time diagram

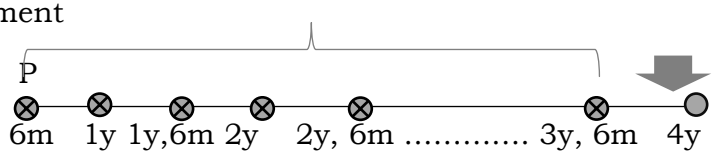


Therefore, there are 5 skip payments

Answer: 5 months or 5 periods

b. Semi-annual payments of ₱7,500.00 for 15 years that will start 4 years from now.

Skip payment



Answer: 7 periods or 7 semi-annual intervals

What's More

Directions: Read each problem carefully and answer each question to solve the problem. Have Fun!

Activity 1.1

Find the period of deferral in each of the following deferral annuity problems (one way to find the period of deferral is to count the number of artificial payment (k). Make a diagram.

1. Payment of ₱ 3,000.00 every 3 months for 8 years that will start 6 years

Time Diagram	*Answer*

2. Payment of ₱ 1,000.00 every other month for 2 years that will start after 3 years.

Time Diagram	*Answer*

3. Payment of ₱ 700.00 every month for one (1) year that will start at the end of the third month

Time Diagram	*Answer*

4. Payment of ₱ 400.00 every 5 months for 3 years that will start at the end of 5 years.

Time Diagram	*Answer*

5. Semi-annual payment of ₱ 12,000.00 for twelve (12) years that will start after 5 years.

Time Diagram	*Answer*

Activity 1.2

Directions: Read each problem carefully about calculating the present value and period of deferral of a deferred annuity and perform the appropriate solutions to answer the problem.

1. A group of college students decided to invest the money they earned from the fund-raising project. After 6 months from today, they want to withdraw from this fund ₱ 10,000.00 quarterly for 1 year to fund for community service. How much is the present total deposit if the interest rate is 4% converted quarterly?
2. A company offers a deferred payment option for the purchase of any furniture. Gladys plans to buy a dining table set with a monthly payment of ₱ 4,000.00 for 2 years. The payment will start at the end of 3 months. How much is the cash price of the dining set if the company will give 10% compounded monthly?

What I Have Learned

A. Directions: Fill in the blanks below with the correct term to make each statement true about calculating the present value and period of deferral of a deferred annuity.

1. A deferred annuity is an annuity whose payments starts in more than period from the _____.
2. Each payment in an annuity is called the _____.
3. A deferred annuity is an annuity whose first payment takes place at some predetermined time _____.
4. In retirement planning, payments on income taxes are deferred until you _____ the money.

Answer the following questions about calculating the present value and period of deferral of a deferred annuity.

1. What are the benefits of a deferred annuity?

   _____
   _____

2. Is a deferred annuity a good investment?

   _____
   _____

3. What is the difference of grace period and deferment?

   _____
   _____

B. Explain the basic types of deferred annuities: fixed, indexed, variable, and longevity.

What I Can Do

Directions: Create your own loan plan with complete computations using the applications of Annuity on a short bond paper. Explain using five sentence paragraph the importance of annuity in your daily life on a separate sheet of yellow pad paper.

Rubrics

Category	**Excellent**	**Very Satisfactory**	**Satisfactory**	**Needs Improvement**
Content Accuracy (20)	100% of the answers and computations are correct. (20)	80-99% of the answers and computations are correct. (17)	60-79% of the answers and computations are correct. (14)	Below 60% of the answers and computations are correct. (11)
Presentation of Output (20)	Output is exceptionally presentable in terms of creativity and neatness. (20)	Output is presentable in terms of creativity and neatness. (17)	Output is acceptably presentable though it may be a bit messy. (14)	Output is distractingly messy and not presentable. (11)
Organization of Ideas (10)	All sentences are very clear, and the ideas are very organized. (10)	All sentences are clear, and the ideas are organized. (8)	Some ideas are not clear and inorganized but overall, ideas are acceptable. (6)	Ideas are disorganized and not clear. (4)

Assessment

Directions: Read the following questions about calculating the present value and period of deferral of a deferred annuity and choose the correct answer by writing the letter on a separate sheet of paper.

1. What is the present value of 10 semi-annual payments of ₱ 2,000.00 if the first payment is due at the end of 3 years and money is worth 8% compounded semi-annually?

   a. ₱ 10,330.31 c. ₱ 15,841.12

   b. ₱ 13,333.13 d. ₱ 17,332.25

2. Which of the following statements **DOES NOT** refer to annuities?

   a. Annuities do not use the pooling technique to spread risk
   b. An owner may change the annuity date, the beneficiary, or the settlement option
   c. Once the payout period begins, the annuitant receives periodic payments
   d. The accumulation period is the period prior to the annuitization date

For items number 3 to 4, study the situation below.

A farmer decided to sell his land and to deposit the fund in a bank. After computing the interest, he learned that he may withdraw ₱ 390,500.00 yearly for 10 years starting at the end of 6 years when it is time for him to retire. How much is the fund deposited if the interest rate is 5% converted annually?

3. What is the number of artificial payments?

   a. 4 c. 6

   b. 5 d. 10

4. What is the present value of the annuity for withdrawal?

   a. ₱ 2,005,197.75 c. ₱ 2,362,595.82

   b. ₱ 2,344,592.24 d. ₱ 4,215,120.15

5. Gladys borrows ₱ 400,000.00 at an interest rate of 4% per year compounded semi-annually. She agreed to settle her loan by making 12 semi-annual payments at the end of each six months. If the first payment is made at the end of 2 years, how much is the periodic payment?

a. ₱ 80,756.35
c. ₱ 40,138.96
b. ₱ 76,348.25
d. ₱ 49,165.39

6. What is the period of deferral if semi-annual payments of ₱5,000.00 for 13 years that will start 4 years from now?

a. 7
c. 9
b. 8
d. 10

7. Melwin availed a loan from the bank that gave him an option to pay ₱ 20,000.00 monthly for 2 years. The first payment is due after 4 months. If the interest rate is 10% converted monthly, what is the period of deferral?

a. 1
c. 3
b. 2
d. 12

8. How many numbers of payments are to be done in the situation in question number 7?

a. 16
c. 27
b. 24
d. none

9. What is the present value in the situation in question number 7?

a. ₱ 422,759.78
c. ₱ 525,215.16
b. ₱ 433,655.13
d. ₱ 625,322.14

10. What is the present value of a deferred annuity of ₱1,500.00 every 3 months for 8 years that is deferred 3 years if money is worth 6% converted or compounded quarterly?

a. ₱ 15,339.25
c. ₱ 31,699.67
b. ₱ 18,231.34
d. ₱ 43,825.32

11. What type of deferred annuity in which a return is based on the performance of a portfolio of mutual funds, or sub-accounts, chosen by the annuity owner.

a. fixed annuity
b. variable annuity
c. indexed annuity
d. longevity annuity

12. A car is to be purchased in monthly payments of ₱ 17,000.00 for 4 years starting at the end of 4 months. How much is the cash value of the car if the interest rate used is 12% converted monthly?

a. ₱ 626,571.56
b. ₱ 657,915. 02
c. ₱ 816,000.00
d. ₱ 913,920.05

13. A group of employees decided to invest a portion of their 13th-month pay. After 3 months from today, they want to withdraw from this fund ₱5,000.00 monthly for 12 months to fund their travel tour that they decide to do every month. How much is the total deposit now if the interest rate is 5% converted monthly?

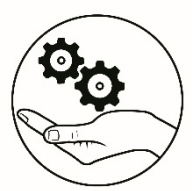
a. ₱ 52,544.17
b. ₱ 57,922.41
c. ₱ 68,245.12
d. ₱ 88,201. 05

14. Meghan purchased a laptop for the online class of her kids through the credit cooperative for their company. The cooperative provides an option for a deferred payment. Meghan decided to pay after 4 months of purchase. Her monthly payment is computed as ₱3,500.00 payable in 12 months. How much is the cash value of the laptop if the interest rate is 8% convertible monthly?

a. ₱ 45,360.00
b. ₱ 42,000.00
c. ₱ 39,441.14
d. ₱ 36,225.15

15. Payments of ₱ 7,000.00 every 2 years for 10 years starting at the end of 6 years. What is the period of deferral?

a. 1
b. 2
c. 3
d. 10



Additional Activities

Directions: Write a journal about which is better in terms of buying a large purchase or property – "saving money on bank or getting a loan"?

Rubrics

Presentation of Output (20)	Output is exceptionally presentable in terms of creativity and neatness. (20)	Output is presentable in terms of creativity and neatness. (17)	Output is acceptably presentable though it may be a bit messy. (14)	Output is distractingly messy and not presentable. (11)
Organization of Ideas (30)	All sentences are very clear, and the ideas are very organized. (30)	All sentences are clear, and the ideas are organized. (27)	Some ideas are not clear and inorganized but overall, ideas are acceptable. (24)	Ideas are disorganized and not clear. (21)

Answer Key

What I Know

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

What's More

Activity 1.1

1. 24 periods or 24 3 months interval
2. 18 periods or 18 2 months interval
3. 2 periods or 2 months intervals
4. 11periods or 11 5 months intervals
5. 10 periods or 10 half-year intervals

Activity 1.2

1 Php38,633.32
2. Php 85, 260.00

What I have learned

A1. Present
2. Periodic payment
3. k+1
4. withdraw

Assessment

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

References

Chan, Miro, Quiming. General Mathematics. Viba Group Inc. 2016. Pp. 83-86

Dimasuay Lynie, Alcala Jeric, Palacio Jane. Enhanced Teacher's Manual General Mathematics for Senior High School. C & E Publishing, Inc. 2016 pp. 101-105

General Mathematics Learner's Material. First Edition. 2016. pp. 199 - 204

Oronce, Orlando. *General Mathematics*. Sampaloc Manila, Philippines. Rex Bookstore, Inc. 2016. Pp. 224-230

*DepED Material: General Mathematics Learner's Material

Teach Together, Deferred Annuity, K-12 Teacher's Resource Community. January 12, 2017
https://www.google.com/search?ei=GhzmXoqABPaSr7wPrKWpmAY&q=deferred+annuity+teach+together&oq=deferred+annuity+teach+together&gs_lcp=CgZwc3ktYWIQAzoECAAQRzoECAAQQzoCCAA6BggAEBYQHjoFCAAQzQI6CAghEBYQHRAeOgUIIRCgAToHCCEQChCgAVCUPljBdWCRe2gBcAF4AIABtQWIAd8lkgELMC4zLjUuNi4xLjGYAQCgAQGqAQdnd3Mtd2l6&sclient=psy-ab&ved=0ahUKEwiK9bKSq4HqAhV2yYsBHaxSCmMQ4dUDCAw&uact=5

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