Project EASE

(Effective and Alternative Secondary Education)

MATHEMATICS I
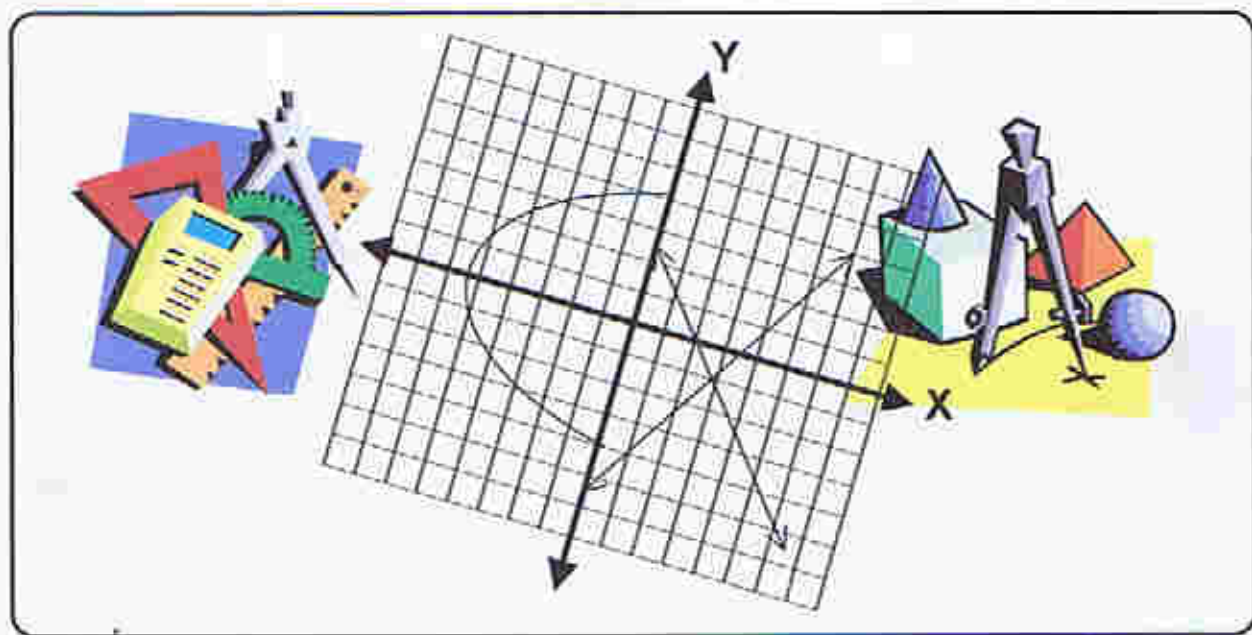
MODULE 2
The Shorter the Better

DepED
DEPARTMENT OF EDUCATION

What this module is all about

You have learned in Module 1 the different systems of measurement and the various instruments used to measure length, weight, temperature, volume, time, and angle. Moreover, you have developed skills on how to convert one unit to another unit.

This module discusses the concept of ratio and its application to measurement. It will develop your skills in rounding big numbers. Most importantly this module will provide you with the techniques and the confidence to solve problems not only in measurement but in all areas of mathematics.

This module has 3 lessons:

> **Lesson 1   Ratio**
> **Lesson 2   Rounding off numbers**
> **Lesson 3   Solving problems involving measurements**

What you are expected to learn

After going through this module, your are expected to:

- Express relationships between two quantities using ratio.
- Round off measurements to a given place value (e.g. nearest ten, nearest tenth, nearest hundred, etc.)
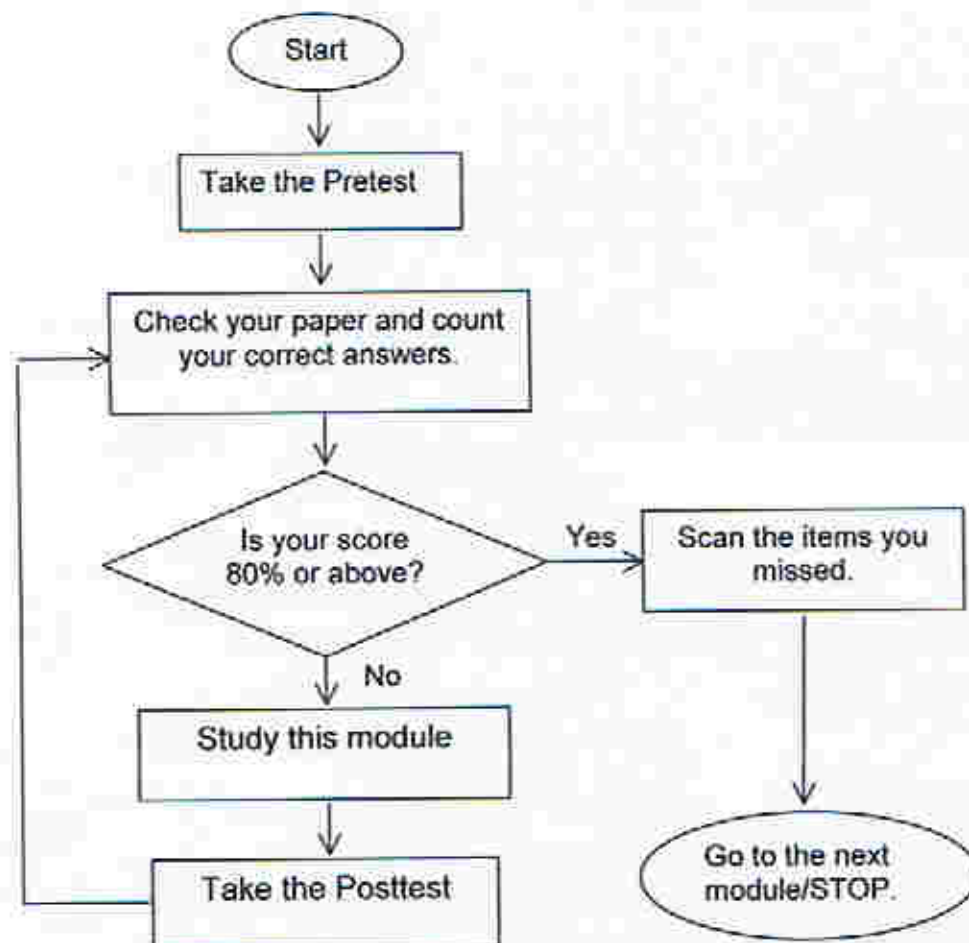- Solve problems involving measurements.

How to learn from this module

This is your guide for the proper use of the module:

1. Read the items in the module carefully.
2. Follow the directions as you read the materials.
3. Answer all the questions that you encounter. As you go through the module, you will find help to answer these questions. Sometimes, the answers are found at the end of the module for immediate feedback.
4. To be successful in undertaking this module, you must be patient and industrious in doing the suggested tasks.
5. Take your time to study and learn. *Happy learning!*

The following flowchart serves as your quick guide in using this module.

```
                    ( Start )
                        |
                        v
              [ Take the Pretest ]
                        |
                        v
         [ Check your paper and count
              your correct answers. ]
                        |
                        v
            < Is your score        >   Yes   [ Scan the items you
              80% or above?        > ------>        missed. ]
                        |                              |
                       No                              |
                        v                              v
            [ Study this module ]            ( Go to the next
                        |                       module/STOP. )
                        v
            [ Take the Posttest ]
```

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What to do before

Before you use this module, take the following **Pretest**.

Multiple Choice. Choose the letter of the correct answer.

1. The altitude of a right triangle is 30 centimeters and its shorter leg is 18 centimeters. What is the ratio of the altitude to its shorter leg?
   - a. $6:7$
   - b. $3:5$
   - c. $5:3$
   - d. $4:3$

2. Jose took 18 days to finish his class project while Rony took 3 weeks to do the same task. What is the ratio of the length of time spent by Jose to the length of time spent by Rony to finish their respective project?
   - a. $2:1$
   - b. $5:6$
   - c. $6:7$
   - d. $7:8$

3. The ratio of the sides of two squares is $4:5$. If the sum of their areas is 180 cm², what is the length of the side of the bigger square?
   - a. 8 cm
   - b. 9 cm
   - c. 10 cm
   - d. 12 cm

4. What is the ratio of 60 centimeters to 1 meter?
   - a. $2:5$
   - b. $3:5$
   - c. $5:2$
   - d. $5:3$

5. What is 3 728 when rounded to the nearest thousand?
   - a. 3 700
   - b. 3 000
   - c. 4 000
   - d. 3 720

6. What is 38.2752 rounded off to the nearest hundredths?
   - a. 38.28
   - b. 38.00
   - c. 37.27
   - d. 37.28

7. Aling Nita went to the market and bought the following:
   $1\frac{1}{2}$ kilograms of meat for P165.00, 2 kilograms of onion for P65.00, $1\frac{1}{2}$ kilograms of dried fish for P25.00 and P1.50 for a glove of garlic. How much did Aling Nita spend? Round off your answer to the nearest centavo.
   - a. P256.50
   - b. P25.70
   - c. P250.70
   - d. P25.00

8. At a bargain sale, 3 shirts sell for P250. Estimate the cost of each shirt.
    a. P83.33
    b. P8.33
    c. P833.00
    d. P833.33

9. Given the figure at the right, what is the ratio of the number of squares that are shaded to the number of unshaded squares?

    a. 1 : 4
    b. 1 : 3
    c. 2 : 5
    d. 2 : 7

10. A town map has a scale of 1 cm = 6500 m. If two streets are 7 cm apart on the map, what is their actual distance in kilometers? Round off your answer to the nearest tens.
    a. 40 km
    b. 45.5 km
    c. 50 km
    d. 45 km

11. The outside dimensions of a picture frame are $30\frac{1}{2}$ cm by $25\frac{3}{4}$ cm . If the wood used to make the frame is $1\frac{1}{2}$ cm in width, what are the dimensions of the frame?

    a. $33\frac{1}{2}$ cm by $28\frac{3}{4}$ cm
    c. $27\frac{1}{2}$ cm by $22\frac{3}{4}$ cm

    b. 29 cm by $24\frac{1}{4}$ cm
    d. $25\frac{1}{2}$ cm by $20\frac{3}{4}$ cm

12. What is the weight of 152 pieces of peso coins in kilograms if a peso coin weighs 15 grams?
    a. 5 kg
    b. 4 kg
    c. 3 kg
    d. 2 kg

13. Four framed paintings are to be placed side by side with a 2.5 cm space between them. If each frame has a width of 29.2 cm and a height of 58.5 cm, what is the approximate area needed for display by the paintings in square meters?
    a. $.78m^2$
    b. $.75m^2$
    c. $.73m^2$
    d. $.67m^2$

14. A professor in a certain university earns P396 per hour of extra load. If the professor works 12 hours in a week for an extra load and 25% withholding tax is deducted from the gross pay, how much net monthly income does the professor expect for the extra load? (Assume that there are 4 weeks in a month and no recorded absences by the professor.)

a. PHP 18 640

b. PHP 14 256

c. PHP 12 948

d. PHP 10 278

15. The area of a rainforest in Burma is 120 446 square miles and that of Venezuela is 123 060 square miles. Approximately, how many square kilometers is the Venezuela rainforest larger than that of Burma?

a. 6 767.3 sq km

b. 7 067.3 sq km

c. 8 167.3 sq km

d. 9 078.3 sq km

What you will do

Lesson 1 Ratio

How do you compare two quantities? For example, let's compare the sales of two newspaper boys, Tom and Jerry. Tom sold 300 newspapers while Jerry sold 200 newspapers. What is the ratio of the sales of the two boys?

Did you know?

Ratio, that is usually expressed as a fraction, expresses a relationship between two quantities.

There are two ways of using ratio:
- Ratio is used as a comparison if the two quantities are of the same kind and with the same unit. The result of the comparison is a number without any unit.
- Ratio is used as a rate if the two quantities are of different kinds.

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To compare the sales of Tom and Jerry in the situation above, we divide the number of newspapers Tom sold by the number of newspapers Jerry sold. Since $300 \div 200 = \frac{3}{2}$ or $1\frac{1}{2}$, we say Tom sold $1\frac{1}{2}$ times as many newspapers as Jerry. We can also say that every 3 newspapers Tom sold, Jerry sold 2.

Example 1

Consider the following table about the lengths of the different parts of the body of two persons.

	Height	Arm span	Neck	Waist
Marie	1.5 m	68 cm	34 cm	30 in
Peter	1.7 m	70 cm	40 cm	34 in

The ratio of Marie's arm span to Peter's arm span is 68 cm : 70 cm or 34 : 35 in simplest form. This can be written as $\frac{34}{35}$ in fraction.

How will you compare Peter's waistline to Marie's waistline? (a) _____ What is the ratio of the circumference of Marie's neck to Peter's arm span? (b) _____ What is the ratio of Peter's waistline to his arm span? (c) _____

Suppose you are asked to find the ratio of Peter's height to that of Marie's, how will you form the ratio? To form the ratio of 1.5 m to 1.7 m, write the ratio in the form of fraction without decimal point. Thus, $\frac{1.7m}{1.5m} = \frac{1.7}{1.5} x \frac{10}{10} = \frac{17}{15}$ or 17 : 15.

How about if you are asked to find the ratio of Marie's arm span to her height, how will you go about this? The length of Marie's arm span is 68 cm while her height is 1.5 m. The units used are different. First change 1.5 m to cm thus, 1.5 m x$\frac{100cm}{1m} = 150cm$. Therefore, the ratio of Marie's arm span to her height is 68 cm to 150 cm or $\frac{68cm}{150cm} = \frac{34}{75}$ or $34 : 75$ What is the ratio of Peter's arm span to his height? (d) _____
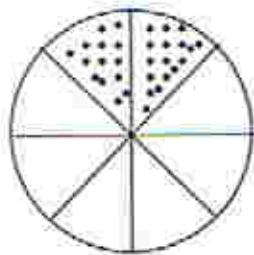
Based on the discussion above, how will you form the ratio of two quantities if these are in decimal form? (e) _____
When the two quantities you compare have different units, how will you form their ratio? (f) _____
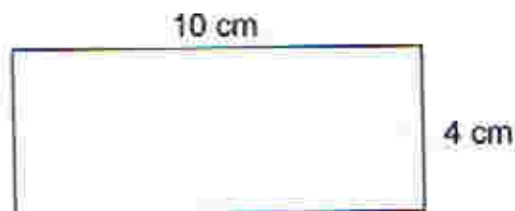
What is ratio? (g) _____

Example 2

Look at the pie. Two parts of the pizza pie are shaded, while 6 parts of it are not. Therefore, the ratio of the dotted parts to the unshaded ones is $\frac{2}{6}$ or $\frac{1}{3}$. One-third means that there is one slice for every 3 slices of the pizza or 1 : 3. What is the ratio of the unshaded part to the shaded part? (a) _____

Example 3

What is the ratio of the length to the width of this rectangle? The length of the rectangle is 10 cm and the width is 4 cm. So, the ratio is $\frac{10}{4}$ or $\frac{5}{2}$. This means that there are 5 units of length for every 2 units of width.

Example 4

A 56 cm ribbon is to be cut into two pieces. The ratio of their lengths is 2 : 5. What is the length of each piece?

In this case, you must add 2 and 5. What is their sum? (a)_____

To find the length of the shorter piece, form a fraction whose numerator is 2 and denominator is the sum of the 2 and 5. Thus, $\dfrac{2}{2+5}$ or $\dfrac{2}{7}$. Multiply $\dfrac{2}{7}$ by 56. What is the product? (b) _____

The product obtained is the length of the shorter piece. What is its length? (c) _____

What is the length of the longer piece? (d) _____

How will you check the correctness of your answer? (e) _____

Self-check 1

A. Give the ratio of the pair of quantities in each of the following statements.

1. A horse runs a distance of 16 kilometers in 2 hours.
2. A car consumed 15 liters of gasoline in 3 hours.
3. An envelope is $8\dfrac{3}{4}$ inches long and $4\dfrac{3}{4}$ inches wide.

B. Solve these problems.

1. The ratio of the three angles of a triangle is $1:3:5$. What is the measure of the three angles?

2. The ratio of width of a rectangular lot to its length is $3:4$. If the perimeter is 84 meters, what is its dimension?

Lesson 2 Rounding Off Numbers

Did you know?

Writing very big or very small numbers can be difficult and may cause errors in computation. It is for these reasons that we round off some numbers to make computations simpler. Rounding numbers is an approximation technique, which replaces complicated numbers with simpler ones.

Numbers can be rounded to the nearest 10, 100, 1000 etc.

To help you understand how to round off numbers, let us consider the following examples.

Example 1

If you divide 9 by 52, what is its quotient? Did you get 0.1730769? (a) _____

We can make this number simpler by rounding it off to a given place value. For example, if we round off this number to the nearest ten thousandths, then the answer is 0.1731. We drop 769 and add 1 to zero because the first digit to be dropped in the three digits is 7 which is greater than 5.

How will you round off 0.1730769 to the nearest thousandths? Since the number to be dropped is 07697 and 0 is the first digit of the five digits to be dropped, you will not add 1 to 3 since 0 is less than 5. Thus, the answer is 0.173.

How will you round off 0.1730769 to the nearest hundredths? (b) _____
To the nearest tenths? (c) _____

 Answer Key on page 21

Example 2

Round off 654 to the nearest tens.

654 = 650 since 4 the digit to be dropped is less than 5. Add zero after five in place of the unit place value.

654 = 700 to the nearest hundreds because the digits to dropped 54 is more than half of 100.

How will you round off 2500 to the nearest thousand? (a) _____

Answer Key on page 21

Example 3

A car travels at the rate of 110.25 kilometers per hour. What is its speed in meters per minute. Round off your answer to the nearest whole number.

To solve this, convert km/hr to m/min, using the following converting factors.

$$1 \text{ km} = 1000 \text{ m}$$
$$1 \text{ hr} = 60 \text{ min}$$

Thus,

$$\frac{110.25 km}{hr} \times \frac{1000m}{1km} \times \frac{1hr}{60 \min} = \frac{1837.5}{\min} \text{ or } 1\,837.5 \text{ m/min.}$$

Rounding off the answer to nearest whole number is equal to 1 838 m/min.

Rules in rounding off numbers:

1. Find the place value position being rounded to.
2. Look at the digit to the right of the number to be rounded off.
3. Round up or increase by 1 if the digit to the right is 5 or greater.
4. Retain the number if the digit to the right is less than 5.

Note: *For whole numbers, replace the dropped digits by zero.*
For decimals, there is no replacement for the dropped digits.

Self-check 2

1. Round off each measurement to the indicated place.

	Nearest tenth	Nearest hundredth	Nearest thousandth
0.5472 cm			
31.2345 m			
2.3262 km			
	Nearest ten	Nearest hundred	Nearest thousand
8465 ml			
7546 g			
8446 oz			

2. Riding on a bus, the student delegates traveled 385 kilometers in 5 hours and 45 minutes. To the nearest ten, estimate the average speed for the trip in km/hr.

3. The thickness of a table is 0.6 m. If its volume is 1.53 m^3, what is the length of the table if the width 1.2 m? Round off your answer to nearest tenth.

Lesson 3: Solving problems involving measurements

Let's take a look at how problems involving measurements are solved.

Let us recall Polya's four–step process in solving a problem. Below is the flow chart of the steps.

```
┌─────────────────────────────┐
│   Understand the problem     │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│       Make a   plan          │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│      Carry out the plan      │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│         Look back            │
└─────────────────────────────┘
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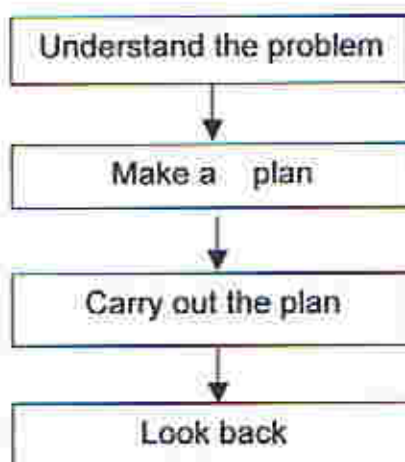
Aside from Polya's four-step process in solving problems, there are other methods that will help you solve many routine and nonroutine problems. They can be solved by making tables, drawing diagrams and forming equations.

Exploration

Let us consider the following examples.

Example 1

The average diesel consumption of a jeepney driver for the whole day is 20 liters. How many liters of diesel did he consumed in $4\frac{1}{2}$ days.

You may solve this by making a table.

Number, of days	1	1.5	2	2.5	3	3.5	4	4.5
Amount of diesel (in liters)	20	30	40	50	60			

Analyze the table above.

In one day the jeepney driver consumed 20 liters of diesel while in $1\frac{1}{2}$ days he consumed 30 liters. The number of liters consumed can be determined multiplying the number of days by the amount of diesel consumed in one day. That is,

1.5 days X 20 liters = 30 liters, consumed in $1\frac{1}{2}$ days

2 days X 20 liters = 40 liters, consumed in 2 days

2.5 days X 20 liters = 50 liters, for $2\frac{1}{2}$ days

3 days X 20 liters = 60 liters, for 3 days

Using the same process, how many liters of diesel will the driver consume in 3.5 days? (a)_____ 4 days? (b)_____and 4.5 days? (c)_____

Based on the pattern, to find the amount of diesel in liters for a given number of days you multiply the number of days by the number of liters of diesel in one day. This is expressed by the following equation:

Amount of diesel in liters = number of liters per day X number of days

Hence, 90 liters of diesel is consumed by the jeepney driver in $4\frac{1}{2}$ days.

Answer Key on page 21

Example 2

It is recommended that a person should drink at least 8 glasses of water each day. If a glass contains about 180 ml, how many milliliters of water is consumed by a person in 5 days?

Consider the following table.

Number of days	1	2	3	4	5
Number of glasses per day	8	16	24	32	40
Amount of water consumed (in ml)	1 400	2 880	4 320		

Look at the table and analyze how the values in the table were computed.

To find the number of glasses of water each day, multiply the number of days by 8 glasses. Thus,

1day X 8 glasses of water = 8 glasses of water,
2 days X 8 glasses of water = 16 glasses of water
3 days X 8 glasses of water = 24 glasses of water.

The last two values are left for you to determine.

To compute the amount of water consumed, you will multiply the number of glasses consumed for the day by 180 ml. Thus,

8 glasses of water X 180 ml = 1 400 ml for 1 day,
16 glasses of water x 180 ml = 2 880 ml for 2 days and
24 glasses of water X 180 ml = 4 320 ml for 3 days.

How many milliliters of water are consumed in 4 days? (a) _____ ;
In 5 days? (b) _____

Answer Key on page 21

Example 3

Peters house is 4 kilometers from Angel's house, while that of Jimmy is 2.75 kilometers from Angel's house. It Jimmy is 1.25 kilometers away from SM Fairview, what is the distance of Peter's house if they are in the same direction?

You can visualize this situation by making a diagram like the one below.

You are computing for the distance of Peter's house from SM Fairview. That is given by 4 km + 2.75 km + 1.75 km = 8 km.

Therefore, the distance of Peter's house from SM Fairview is 8 kilometers.

Example 4

One sixth of the length of the ribbon was cut off. The length of the remaining ribbon was 75 centimeters. What was the original length of the ribbon?

To do this, first understand the problem by taking note of the facts:

14

Facts: $\dfrac{1}{6}$ of the length of the ribbon was cut off.

75 cm was the length of the remaining ribbon.

What is asked: What was the length of the ribbon before cutting?

Working backwards, we do this:

75 cm is $\dfrac{5}{6}$ of the original length of the ribbon

$\dfrac{75}{5}$ is $\dfrac{1}{6}$ of the original length of the ribbon

The original length of the ribbon is:

$$75 + (\dfrac{75}{5}) = 75 \text{ cm} + 15 \text{ cm}$$

$$= 90 \text{ cm}$$

Looking back, 90 cm is the original length of the ribbon. The portion of the ribbon that was cut off was $\dfrac{1}{6}$ of 90 cm. Thus, the length of the remaining ribbon was 75 cm.

or 90 cm	original length of ribbon
$-$ 15 cm	$\dfrac{1}{6}$ of 90 cm

75 cm, which is $\dfrac{5}{6}$ of the original length

Example 5

If you remove 8 kilos of mangoes from a basket and place 12 kilos of mangoes in it instead, the basket contains 21 kilos of mangoes. How many kilos of mangoes are inside the basket at the start?

Enumerate the given data: 21 kilos = total kilos of mangoes in the basket

$-$ 12 kilos = additional kilos

9 kilos = kilos left after removing 12 kilos

+ 8 kilos

17 kilos = the number of kilos inside the basket

Therefore, the number of kilos of mangoes inside the basket is 17.

 Self-check 3

1. Fill in the blanks to make each sentence true
   a. 12 m x 7 m = _____ x 12 m = _____

   b. 9 cm X _____ cm = _____ x 9 cm = 225 cm^2

   c. (9 in x 8 in) x _____ = 9 in x (8 in x _____) = 432 in^3

2. Dyndel sold $\frac{3}{4}$ of her farmland. If she had 6 hectares after the sale, how many hectares did she own originally?

3. Fe pays P14 400 for a piece of land whose dimension is 12 m by 60 m. This is four-fifth of the price of the land. What is the price of the land?

4. An 11 by 11 square are colored alternately red and white. If the corner unit square is red, how many red and white unit squares are there?

5. Jimmy rode his bike 6 km east, 4 km west, and 5 km east. How far is he from his starting point?

6. What combination of 1 centavo, 10 centavo, and 25 centavo coins has a total value of 99 centavos?

7. Three cubic centimeters of water dropped from a faucet every 2 minutes. How many cubic centimeters of water dropped in 15 minutes? 45 minutes? Complete the table below.

Number of minutes	Number of cubic meters per minute= $\dfrac{3cm^3}{2min}$ X number of minutes
15	$\dfrac{3cm^3}{2min}$ x15 min = _____
45	
90	
120	

16

8. Recall that to find the perimeter of a regular polygon, perimeter = length of sides X number of sides of a regular polygon. Complete the table below.

Regular polygon	Length of side	Perimeter P = length X number of sides	Round off to nearest
Ttriangle	12.02 cm	3 x 12.02 = ____	tenth =
Square	2.168 m		Hundredth =
Pentagon	8.3 dm		Ten =
Hexagon	9.001 ft		Tenth =

Let's summarize

- Ratio is a comparison by division of two quantities of the same kind and with the same unit.

- Quantities of different kinds are usually called rate instead of ratio.

- Rounding numbers is an approximation technique which replaces complicated numbers with simpler ones.

- Rules in rounding off numbers

    1. Find the place value position being rounded to.
    2. Look at the digit to the right of the number to be rounded off.
    3. Round up or increase by 1 if the digit to the right is 5 or greater.
    4. Retain the number if the digit to the right is less than 5

What to do after

Take the following **Posttest**.

Multiple Choice. Choose the letter of the correct answer.

1. The circumference of two circles are 8πcm and 14πcm respectively. What is the ratio of the circumference of the smaller circle to the larger circle?
   a. $4:5$
   b. $4:6$
   c. $4:7$
   d. $4:8$

2. Glenn took 24 hours to finish his project while Romy took $1\frac{1}{2}$ days. What is the ratio of the length of time spent by Glenn to the length of time spent by Romy to finish their respective project?
   a. $1:3$
   b. $1:5$
   c. $2:1$
   d. $2:3$

3. The ratio of the sides of two squares is $2:5$. What is the length of the side of the smaller square if their perimeter is 182 cm?
   a. 12 cm
   b. 13 cm
   c. 14 cm
   d. 15 cm

4. What is the ratio of 90 centimeters to 1.5 meters?
   a. $2:5$
   b. $3:5$
   c. $4:5$
   d. $5:6$

5. What is 17 385 rounded to the nearest hundred?
   a. 17,100
   b. 17,300
   c. 17,400
   d. 17,500

6. Which is equivalent to 24.8455 rounded to the nearest thousandth?
   a. 24.845
   b. 24.846
   c. 24.855
   d. 24.856

7. Zeny bought 10 kilos of rice for P225.00, 1 kilo of beef for P165.00, $1\frac{1}{2}$ kilos of bangus for P150.00 and 2 kilos of vegetables for P75.00. How much did Zeny spend? Round your answer to the nearest ten.
   a. P620
   b. P610
   c. P595
   d. P590

8. At a bargain sale, 6 handkerchiefs sell for P200. Estimate the cost of each handkerchief.

a. P3.33   c. P333.33
b. P33.33   d. P333.00

9. Given the figure at the right, what is the ratio of the number of squares that are shaded to the number of squares that are unshaded ?

    a. 8 : 25   c. 8 : 17
    b. 8 : 19   d. 8 : 15
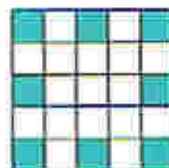
10. The distance from Manila to Dasmarinas is approximately 32.5 km. What is its distance in meters? Round off your answer to the nearest thousand.
    a. 32 000 m   c. 34 000 m
    b. 33 000 m   d. 35 000 m

11. The length and width of a rectangle is 25 cm and 18 cm respectively. If the length and width are each reduced by 4 cm, what is the perimeter of the new rectangle?
    a. 60 cm   c. 66cm
    b. 63 cm   d. 70 cm

12. A collection of one peso coin weighs 4290 grams and each coin weighs 15 grams. How many one peso coins are there?
    a. 300   c. 290
    b. 296   d. 286

13. How many hours did a professor render his service for one month if he earned Php 12,600 if his rate per hour is Php 350?
    a. 40   c. 24
    b. 36   d. 18

14. Five holes are to be drilled along the centerline of a strip of wood so that the centers are 4.25 cm. apart. The centers of the two end holes must be 5 cm from the end of the wood. How long must the wood be?
    a. 31.25cm   c. 20 cm
    b. 28 cm   d. 18 cm

15. The land area of Columbia (S>A) is 439,769 square miles and that of Peru (S.A.)' is 496,260 square miles. How many square kilometers larger is Peru (S.A.)'s land area compared to Columbia (S.A.)?
    a. 386,345.2 sq. km   c. 200,435.2 sq. km
    b. 240,424.2 sq. km   d. 146,255.2 sq. km

Answer Key

1. c	6. d	11. d
2. c	7. a	12. c
3. c	8. a	13. d
4. b	9. b	14. b
5. c	10. c	15. a

Lesson 1 Example 1 page 6

(a) $\dfrac{34}{30}$ or $\dfrac{17}{15}$

(e) Change the decimal number into a whole number and then reduce it to simplest form.

(b) $\dfrac{34}{70}$ or $\dfrac{17}{35}$

(f) Convert them into the same units. Then form the ratio in simplest form.

(c) $\dfrac{86.36cm}{70cm}$

$= \dfrac{8636}{7000}$

or $\dfrac{2159}{1750}$

(g) Ratio is a comparison of two quantities with the same units.

(d) $\dfrac{7}{17}$

Example 2 page 7   (a) 6:2 or 3:1

Example 4 page 7   (a) 7

                 Page 8   (b) 16   (c) 16 cm   (d) 40 cm

                             (e) add the short and the long pieces and then compare their ratio which must be 2:5

Lesson 1 *Self-Check 1* page 8

1. 8 km/hr
2. 5 liters/hr
3. 35 : 19
4. 20°, 60°, 100°
5. 18 in by 24 in

Lesson 2 Example 1 page 9 (a) Yes (b) 0.17 (c) 0.2

Example 2 page 10 (a) 3 000

Lesson 2 *Self-Check 2* page 11

1. Round off each measurement to the indicated place.

	Nearest tenth	Nearest hundredth	Nearest thousandth
0.5472 cm	0.5	.54	0.543
31.2345 m	31.2	31.23	3.235
2.3262 km	2.3	2.33	2.326
	Nearest ten	Nearest hundred	Nearest thousand
8465 ml	8430	8400	8000
7546 g	7560	7600	8000
8446 oz	8450	8400	8000

2. 70 km/hr
3. 2.1 m

Lesson 3 Example 1 page 13 (a) 70 liters (b) 80 liters (c) 90 liters

Example 2 page 14 (a) 5 760 ml (b) 7 200 ml

Lesson 3 *Self-Check 3* page 16

1. (a) $84m^2$, $1008m^3$
   (b) 25 cm, 25 cm
   (c) 6 in, 6 in

2. 24 hectares
3. P18 000.00
4. 61 white and 61 red
5. 7 km
6. Combination of three 25 centavo, two 10 centavo and four 1 centavo

7. 22.5 cm^3/min, 67.5 cm^3/min, 135 cm^3/min, 180 cm^3/min

8.

Perimeter	Rounded off
36.06cm	36.1 cm
8.672m	8.67 m
41.5 dm	40 dm
54.006 ft	54.0 ft

Posttest page 18

1. c	6. b	11. d
2. d	7. a	12. b
3. b	8. b	13. a
4. b	9. c	14. c
5. c	10. b	15. d

END OF MODULE

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