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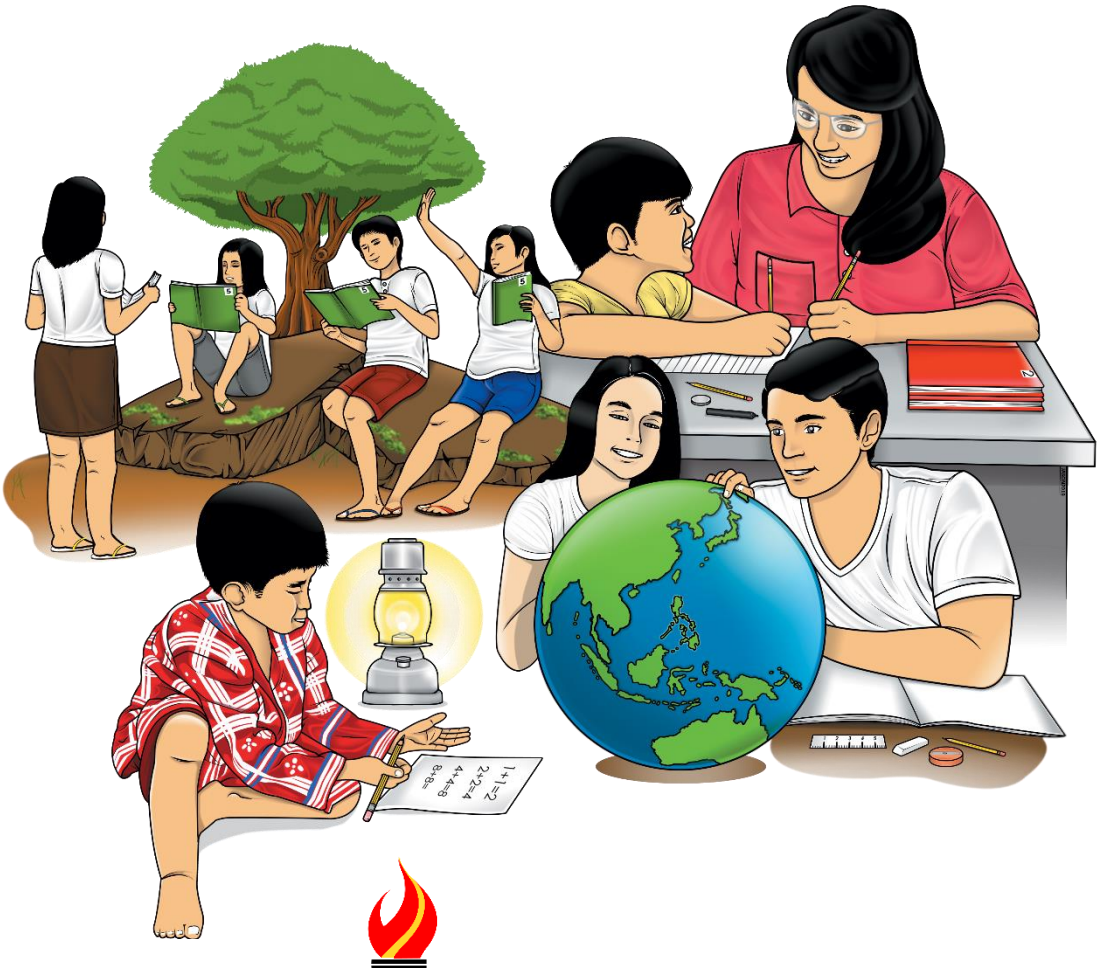
Mathematics

Quarter 4 – Module 73:
Routine and Non-Routine Problems Innvolving Areas of Squares and Rectangles

Department of Education • Republic of the Philippines



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Introductory Message

For the facilitator:

(This gives an instruction to the facilitator to orient the learners and support the parents, elder sibling etc. of the learners on how to use the module. Furthermore, this also instructs the facilitator to remind the learners to use separate sheets in answering the pre-test, self-check exercises, and post-test.)

For the learner:

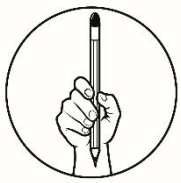
(This communicates directly to the learners and hence, must be interactive. This contains instructions on how to use the module. The structure and the procedure of working through the module are explained here. This also gives an overview of the content of the module. If standard symbols are used to represent some parts of the module such as the objectives, input, practice task and the like they are defined and explained in this portion.)

What I Need to Know

This module was designed and written to help you comprehend Routine and Non-Routine Problems Involving Areas of Squares and Rectangles. The scope of this module permits you to know about the area of the square and rectangle. It will help you by showing the use of formula of the area of square and rectangle. The module will help you solve one-step word problem involving the concept of area by following the 4-step plan in problem solving.

After going through this module, you are expected to:

1. Solve routine and non- routine problems involving areas of squares and rectangles
2. Create word problems involving area with reasonable answer.



What I Know (pre-test)

Read, analyze then solve.

1. The guest room of Mr. Gozo has a length of 8 meters and a width of 35 meters. Find the area of the room.

2. The playing field is 75 meters long and 34 meters wide. What is its area?

Lesson Routine and Non-Routine Problems Involving Areas of Squares and Rectangles

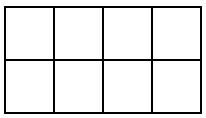
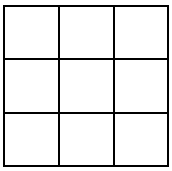
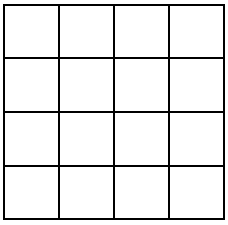
Presentation of the Problem

Sheena noticed that the floor in their living room is covered by square tiles. She counted that the number of tiles in their living room is 36. What does 36 stand for?

Area is the number of square units enclosed in a figure.

What's In

Find the area of the given figure. Write the formula for the area of a rectangle and square.

a.  b  c. 

Notes to the Teacher

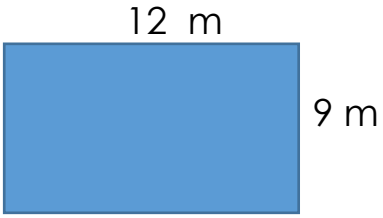
"Make sure to check the mastery skills of pupils on the use of the formula of the Area of square and rectangle."

What's New

Solve the problem.

1. A room measures 12 meters long and 7 meters wide. What is the area of the room?

- In solving the problem involving Area of the rectangle we must know/identify first the shape of the room as stated above:
  - Ask: What is the shape of the room? (Rectangle)
- Draw the figure and put the correct dimensions.
  - Ask: How do we find the area? Area= length times width



- Write the Mathematical sentence. A= l x w

- Solve.
  - A=12 x 9
- Always remember that the unit measure of the area is *Square unit. Example: Square meter(sq.m), Square centimeter(sq.cm)*
- *State the correct and complete answer.*

  The area is 108 square meters

2. Lito's vegetable garden measures 5 meters on each side. What is the area of the garden?

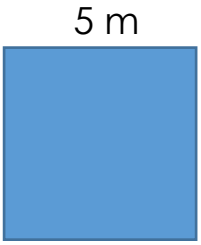
In solving the problem involving Area of the square we must know/identify first the shape of the area.

Ask: What is the shape of the vegetable garden?

(Square)

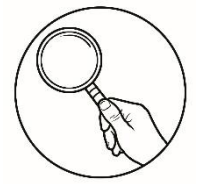
Draw the figure and put the correct dimensions.

Area = side times side



- Write the Mathematical sentence. A= s x s
- Solve.
  - A= 5 x 5
- Always remember that the unit measure of the area is *Square unit. Example: Square meter (sq.m), Square centimeter(sq.cm)*
- *State the correct and complete answer.*

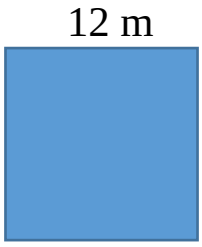
  The area is 25 square meters



What is It

Solve the following problems.

1. Mr. Ramil bought a square lot with measures 12 meters on one side. What is its area?



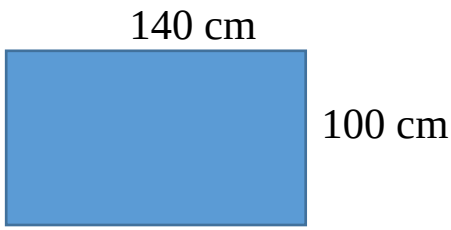
A= s x s

A= 12 m x 12 m

A= 144 sq.m

2. Freddie's father wants to cover their bathroom's floor with square tiles. If their bathroom is 140 cm long and 100 cm wide, what is the area of the bathroom floor?

   A = length times width



A = l x w
A = 140 cm x 100 cm
A = 14 000 sq.cm

What's More

1. What is the area of the auditorium whose length is 45 meters and whose width is 35 meters?

2. The area of a rectangular lot is 72 square meters. If the width of the lot is 6 meters. What is the length of the rectangular lot?

What I Have Learned

- In solving the problem involving Area of the rectangle we must know/identify first the shape of the room as stated above:
  - Ask: What is the shape of the room? (Rectangle)
- Draw the figure and put the correct dimensions.
  - Ask: How do we find the area? Area= length times width

- Write the Mathematical sentence. A= l x w

- Solve.
- Always remember that the unit measure of the area is *Square unit. Example: Square meter(sq.m), Square centimeter(sq.cm)*
- *State the correct and complete answer.*

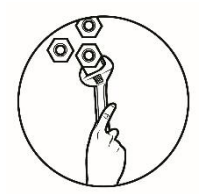
In solving the problem involving Area of the square we must know/identify first the shape of the area.

Ask: What is the shape of the vegetable garden? (Square)

Draw the figure and put the correct dimensions.

Area = side times side

- Write the Mathematical sentence. A= s x s
- Solve.
- Always remember that the unit measure of the area is *Square unit. Example: Square meter (sq.m), Square centimeter(sq.cm)*
- *State the correct and complete answer.*



What I Can Do

Solve the problem

1. The swimming pool is 12 meters long and 8 meters wide. Find its area.
2. The movie theatre is 20 meters long and 8 meters wide. Find its area.
3. A teacher's table is 50 cm on all sides. What is its area?
4. The area of a square handkerchief is 49 square centimeters. What is the length of each side of the handkerchief?
5. A handkerchief measures 30 cm on all sides. What is its area?

Assessment

Solve the problem.

1. A square garden is 4 meters each on all sides. What is the area of the garden?
2. A rectangular plot measures 8 meters long and 4 meters wide. What is the area of the plot?
3. Lino wants to find out the area of their lot. It is too big to count the number of square units. If their lot is 15 meters long and 10 meters wide, what is the area of their lot?
4. A square lawn has a side of 6 meters. What is the area of the laws?
5. A rectangular lot is 12 m by 4 m. What is its area?

Additional Activities

Solve the Problem:

1. Ken made a banner for the school program. The banner is 32 cm long and 25 cm wide. What is the area of the banner?

2. What is the area of a handkerchief which has 48 cm on all sides? What will happen to the area if you double the side?

Answer Key

Additional Activities	What I Can Do	What I Know
1. 800 sq.m 2. 2 304 sq. m	1. 96 sq.m 2. 160 sq.m 3. 2 500 sq.m 4. 2 401 sq.m 5. 900 sq.m **Assessment** 1. 16 sq.m 2. 32 sq.m 3. 150 sq.m 4. 36 sq.m 5. 48 sq.m	1. 280 square meters 2. 2 550 square meters **What' In** a. A = l x w b. A = s x s c. A = s x s **What's More** 1. 1 575 square meters 2. 12 meters

References:

K to12 Curriculum Guide. Q2. Module 33.
K to 12 Teacher's Guide pages 158-160
K to 12 Learner's Material pages 159- 161

For inquiries or feedback, please write or call:

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