LESSON PLAN 2

School	: SMP N 1 Kalasan
Subject	: Mathematics
Grade/ Semester	: VII / 2 (Even Semester)
Topics	: Quadrilaterals (*Parallelogram & Rectangle)*
Time Allocation	: 6×40 minutes

A. Standard of competence

6. Understanding the concept of quadrilaterals and triangle, thus determine its size.

B. Basic Competence

6.2 Identifying the properties of rectangle, square, trapezoid, parallelogram, rhombus and kite.

6.3 Calculating the perimeter and the area of quadrilaterals then use in problem solving.

C. Indicators

1. Defining the definition of parallelogram
2. Identifying the properties of parallelogram
3. Finding the parallelogram perimeter's formula
4. Finding the parallelogram area's formula
5. Calculating the perimeter of parallelogram and use in problem solving
6. Calculating the area of parallelogram and use in problem solving
7. Defining the definition of rectangle
8. Identifying the properties of rectangle
9. Finding the rectangle perimeter's formula
10. Finding the rectangle area's formula
11. Calculating the perimeter of rectangle and use in problem solving
12. Calculating the area of rectangle and use in problem solving

D. Learning Objectives

1. The students are able to define the definition of parallelogram
2. The students are able to identify the properties of parallelogram
3. The students are able to find the parallelogram perimeter's formula
4. The students are able to find the parallelogram area's formula

5. The students are able to calculate the perimeter of parallelogram and use in problem solving

6. The students are able to calculate the area of parallelogram and use in problem solving

7. The students are able to define the definition of rectangle

8. The students are able to identify the properties of rectangle

9. The students are able to find the rectangle perimeter's formula

10. The students are able to find the rectangle area's formula

11. The students are able to calculate the perimeter of rectangle and use in problem solving

12. The students are able to calculate the area of rectangle and use in problem solving

E. Learning Content

The definition of parallelogram	Parallelogram is quadrilateral which has two pairs of parallel sides.
The properties of parallelogram	a. The opposite sides are parallel b. The opposite sides have the same length c. The diagonals are bisect each other d. The number of adjacent angles is 180^0 e. The opposite angles are equal in measurement f. The number of all the angle is 360^0
The perimeter of parallelogram	Parallelogram with base *a cm* and width *b cm* has a perimeter : $K = 2(a+b)$ cm
The area of parallelogram	Parallelogram with base *a cm* and altitude *t cm* has a area : $L = (a \times t)\, cm^2$

The definition of rectangle	Rectangle is parallelogram which one of the angle is right angle.
The properties of rectangle	a. The opposite sides are parallel

	b. The opposite sides have the same length
	c. The diagonals have the same length
	d. The diagonals are bisect each other
	e. The number of adjacent angles is 180^0
	f. All the angle are right angles
	g. The number of all the angle is 360^0
The perimeter of rectangle	Rectangle with length p cm and width ℓ cm has a perimeter : $K = 2 \times (p + \ell)$ cm.
The area of rectangle	Rectangle with length p cm and width ℓ cm has a area: $L = (p \times l)\ cm^2$

F. Learning Scenario

First Meeting

Activities	Allocation
❖ **Pre-teaching** 1. Teacher greats the students and checks the readiness of students to learn parallelogram. 2. Teacher tells the competences that willl be reached by students.	**10 minutes**
❖ **Main Activities** 1. Teacher gives some real problems about parallelogram. 2. Students learn independently about the definition of parallelogram and the properties of parallelogram. 3. Students are given a chance to ask the materials if they don't understand it. 4. Students does challenge 2.1 to more understand about the properties of parallelogram. 5. Three students presents their work and the other students give responses. 6. Teacher guide discussion on the result which has been	**60 minutes**

Activities	Allocation
presented by the students. 7. Teacher gives appreciation to the students who has done his work correctly 8. Students continue to learn about the perimeter of parallelogram and the area of parallelogram. 9. Teacher gives a instruction to the students about how to find the parallelogram perimeter's formula and the parallelogram area's formula. 10. Students are given a chance to ask the materials if they don't understand it.	
❖ **Closing** 1. The students give argument to make conclusion and then discuss it together to make a right conclusion. 2. Teacher gives homework that related to the perimeter of parallelogram and the area of parallelogram on challenge 2.2	**10 minutes**

Second Meeting

Activities	Allocation
❖ **Pre-teaching** 1. Teacher greats the students and checks the readiness of students to rememorize about parallelogram and rectangle. 2. Teacher tells the competences that willl be reached by students.	**10 minutes**
❖ **Main Activities** 1. Teacher guides students in discussing homework about parameter of parallelogram and area of parallelogram. 2. Teacher calls five students to present their homework in front of the class. 3. The other students give responses. 4. Teacher gives some real problems about rectangle. 5. Students learn independently about the definition of rectangle and the properties of rectangle.	**60 minutes**

6. Students are given a chance to ask the materials if they don't understand it.	
7. Students does challenge 3.1 to more understand about the properties of rectangle.	
8. Four students presents their work and the other students give responses.	
9. Teacher guide discussion on the result which has been presented by the students.	
10. Teacher gives appreciation to the students who has done his work correctly	
11. Students are given a chance to ask their questions if they don't understand it.	
❖ **Closing** 1. The students give argument to make conclusion and then discuss it together to make a right conclusion. 2. Teacher gives homework to learn about the perimeter of rectangle and the area of rectangle.	**10 minutes**

Third Meeting

Activities	Allocation
❖ **Pre-teaching** 1. Teacher greats the students and checks the readiness of students to rememorize about the perimeter and the area of rectangle. 2. Teacher tells the competences that willl be reached by students.	**10 minutes**
❖ **Main Activities** 1. The students discuss with his pairs to find the rectangle perimeter's formula. 2. Students are divided into nine groups and each group discuss how to find the rectangle area's formula. 3. Some of groups presents his work and the other groups give responses.	**60 minutes**

4. Teacher guide discussion on the result which has been presented by the students.	
5. Students does challenge 3.2 to more understand about the perimeter and the area of rectangle.	
6. Teacher pointing out the students randomly to presents their work and the other students give responses.	
7. Teacher guide discussion on the result which has been presented by the students.	
8. Teacher gives appreciation to the students who has done his work correctly	
9. Students are given a chance to ask the questions if they don't understand it.	
❖ **Closing**	**10 minutes**
1. The students give argument to make conclusion and then discuss it together to make a right conclusion.	
2. Teacher gives homework to learn about rhombus.	

G. Learning Medias and References

1. Medias
   a. Mathematics module
   b. Ruler
   c. Protractor
   d. Rectangle's plane
   e. Unit square

2. References
   - Mathematics module with title **"*Mathematics Module of Quadrilateral Materials Through Realistic Mathematics Education Approach*"** on page 35-109.

H. Assessment

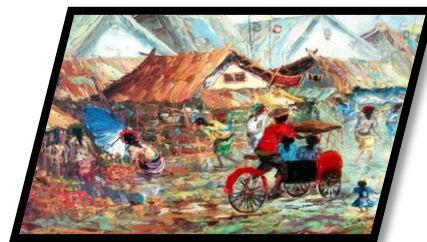1. The technical of assessment
   ❖ Written assessment

2. The form of assessment
   ❖ Exercises

3. Instrument

Do the exercises below!

1. Kirana makes a parallelogram's painting as shown in the side. If the length of one side of the sticker which is opposite each other are $(\frac{6b-5}{5})$ cm and (3b – 217) cm.

   Find :

   a. the value of b

   b. the length of one opposite

2. A parallelogram-shaped floor has a length of base 12 m and altitude 10 m. The floor was covered with tiles that form a parallelogram with base length 25 cm and altitude 20 cm. How many tiles are required to cover the floor?

3. Mrs Reni has a rectangle shaped kitchen. If the length of one diagonal from rectangle which is shape of the kitchen is 6 meter and the other diagonal (5p – 4) meter, determine the value of p!

4. A rectangle's garden has length 20 m and width 12 m. If the perimeter of that garden is to be planted by trees with the first trees were planted in a corner of garden and the distance between trees are 2 m. How many trees are planted?

5. A stadion has 110 m × 90 m in measurement. On stadionside was built street with width 3 m around this stadion.

   a. Find the stadion's area!

   b. If these street will be reconstructed with cost of Rp75.000,00/ m^2, how total cost is required?

4. Evaluation principle

The exercises contains 5 questions. Every question have score 20 and maximal score is 100.

Score $= \dfrac{\text{Student score}}{\text{Maximal score}} \times 100$

5. Assessment criteria

- Students are considered successfully if they received a value ≥ 75

- Learning is considered successfully if 80% of students scored ≥ 75

Approved by: Yogyakarta, March 7th 2012

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