

LESSON PLAN 1

School	: SMP N 1 Kalasan
Subject	: Mathematics
Grade/ Semester	: VII / 2 (Even Semester)
Topics	: Quadrilaterals (<i>Pre-test & Trapezoid</i>)
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 trapezoid
2. Identifying the properties of trapezoid
3. Finding the trapezoid perimeter's formula
4. Finding the trapezoid area's formula
5. Calculating the perimeter of trapezoid and use in problem solving
6. Calculating the area of trapezoid and use in problem solving

D. Learning Objectives

1. The students are able to define the definition of trapezoid
2. The students are able to identify the properties of trapezoid
3. The students are able to find the trapezoid perimeter's formula
4. The students are able to find the trapezoid area's formula
5. The students are able to calculate the perimeter of trapezoid and use in problem solving
6. The students are able to calculate the area of trapezoid and use in problem solving

E. Learning Content

<i>The definition of trapezoid</i>	<p>Trapezoid is quadrilateral which has a pair of parallel opposite sides. There are three types of trapezoid:</p> <ol style="list-style-type: none"> Any trapezoid Isosceles trapezoid Right angle trapezoid
<i>The properties of trapezoid</i>	<ol style="list-style-type: none"> It has a pair of parallel sides The sum of its adjacent interior angles between two parallel sides is 180° The sum of all angles is 360° The isosceles trapezoid has a special properties. They are: <ol style="list-style-type: none"> the diagonals are equal in length the base angles are equal in measure
<i>The perimeter of trapezoid</i>	<p>Trapezoid with the length a cm, b cm, c cm, and d cm has a perimeter as :</p> $K = (a + b + c + d) \text{ cm.}$
<i>The area of trapezoid</i>	<p>Trapezoid with the length of parallel sides a cm and c cm, while the altitude is t cm has an area as :</p> $L = \left(\frac{1}{2} \times (a + c) \times t \right) \text{ cm}^2$

F. Learning Scenario

First Meeting (*Pre-Test*)

Activities	Allocation
<p>❖ Pre-teaching</p> <ol style="list-style-type: none"> Teacher greets the students and checks the readiness of students to do <i>pre-test</i>. Teacher leads the students to pray together before doing the <i>pre-test</i>. 	<p>10 minutes</p>

❖ Main Activities <ol style="list-style-type: none"> Teacher distributes the pre-test sheets that consist of five problems. 50 minutes available to finish the test. 	60 minutes
❖ Closing <ol style="list-style-type: none"> The students gather the pre-test answer 	10 minutes

Second Meeting (*Teaching Learning Process using mathematics module*)

Activities	Allocation
❖ Pre-teaching <ol style="list-style-type: none"> Teacher greets the students and checks the readiness of students to memorize about quadrilaterals. Teacher tells the competences that will be reached by students. 	10 minutes
❖ Main Activities <ol style="list-style-type: none"> Teacher gives some real problems about trapezoid. Students learn independently about the definition of trapezoid and the properties of trapezoid. Students are given a chance to ask the materials if they don't understand it. Students do challenge 1.1 to more understand about the properties of trapezoid. Four students present their work and the other students give responses. Teacher guide discussion on the result which has been presented by the students. Teacher gives appreciation to the students who have done his work correctly Students continue to learn independently about the perimeter of trapezoid. Students are given a chance to ask the materials if they don't understand it. 	60 minutes

❖ Closing <ol style="list-style-type: none"> 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 area of trapezoid. 	10 minutes
---	-------------------

Third Meeting

Activities	Allocation
❖ Pre-teaching <ol style="list-style-type: none"> 1. Teacher greets the students and checks the readiness of students to rememorize about the area of triangle. 2. Teacher tells the competences that will be reached by students. 	10 minutes
❖ Main Activities <ol style="list-style-type: none"> 1. Students learn independently to determine the trapezoid area's formula. 2. The students discuss with his pairs to find the trapezoid area's formula. 3. One of students presents his work and the other students give responses. 4. Teacher guide discussion on the result which has been presented by the students. 5. Students does challenge 1.2 to more understand about the perimeter and the area of trapezoid. 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. 	60 minutes

❖ Closing <ol style="list-style-type: none"> The students give argument to make conclusion and then discuss it together to make a right conclusion. Teacher gives homework to learn about parallelogram. 	10 minutes
---	-------------------

G. Learning Medias and References

1. Medias

- Pre-test sheets
- Mathematics module
- Ruler
- Protractor

2. References

- Mathematics module with title “*Mathematics Module of Quadrilateral Materials Through Realistic Mathematics Education Approach*” on page 1-33.

H. Assessment

1. The technical of assessment

- ❖ Written assessment

2. The form of assessment

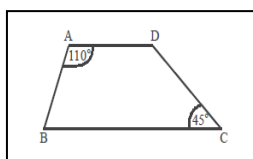
- ❖ Exercises

3. Instrument

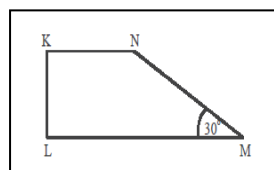
Do the exercises below!

1. Find the all angles of these following trapezoid!

a.



b.



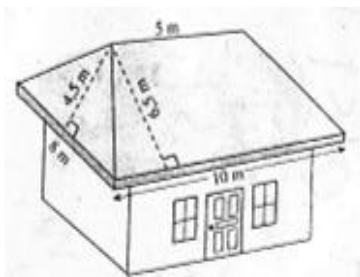
2. Draw an isosceles trapezoid PQRS with some requirements below:

- the length of PQ = 14 cm,
- the length of PS = 5 cm,
- the length of RS = 8 cm,
- PQ // RS
- the measure of $\angle P = 48^\circ$

3. A park has a shape of right angle trapezoid with the length of parallel sides 24 m and 48 m. If the altitude of trapezoid is 10 m, find:

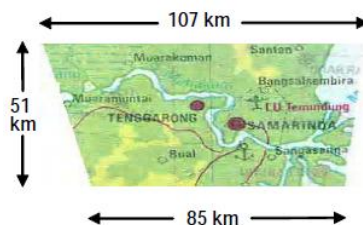
- a. the length of hypotenuse
- b. the area of park.

4.



The picture on the left shows the roof of a house which consists of a pair of trapezoids and a pair of triangles. If a meter square of the roof requires 30 roof-tiles, then how many roof-tiles are required to cover the whole roof?

5. Determine the area of the region which is shown by the following trapezoid figure!



4. Evaluation principle

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

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

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:
Supervisor of SMP N 1 Kalasan

Yogyakarta, March 7th 2012
Mathematics Teacher

Titik Ismardewi, S.Pd
NIP. 19650202 198412 2 001

Andriani Suzana
NIM.08301244043