Name: _____ **Grade & Section:** _____

LEARNING ACTIVTY SHEET
MATHEMATICS 8
QUARTER 4 – WEEK 2A

APPLYING THEOREMS ON TRIANGLE INEQUALITIES

To the Learners:

In the previous lessons, you learned about theorems on Triangle Inequalities. Specifically, the following involving

One Triangle

1. Angle-Side Relationship Theorem
2. Side-Angle Relationship Theorem
3. Triangle Inequality Theorem (The relationship of the two sides to the remaining side of the Triangle)

Two Triangles

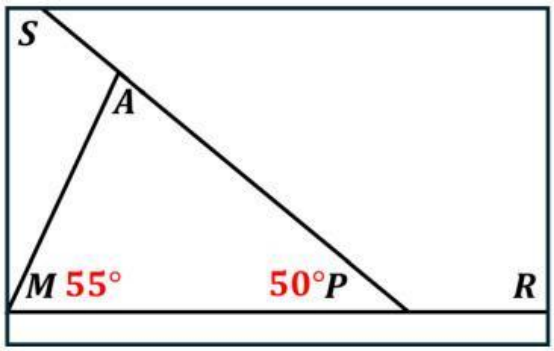
1. Hinge Theorem or SAS Inequality Theorem
2. Converse of the Hinge of SSS Inequality Theorem.

Now, you shall apply these theorems in the following problems below.

Activity 1: Intersection Ahead!

Situation: Three roads intersect at certain points as illustrated in the figure below. Choose which statements is true by shading the circle.

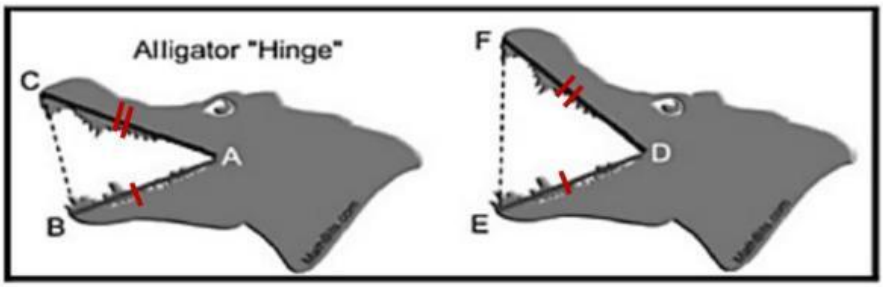
1. ◯ The measure of $\angle A$ is $75°$.
   ◯ The measure of $\angle A$ is $55°$.
2. ◯ MA is the longest side in ΔMAP
   ◯ MP is the longest side in ΔMAP.
3. ◯ The measure of $\angle SAM$ is $105°$.
   ◯ The measure of $\angle SAM$ is $75°$.
4. ◯ $\angle APR$ is greater than $\angle AMP$.
   ◯ $\angle APR$ is less than $\angle AMP$.
5. ◯ A is closer to P than M.
   ◯ M is closer to P than A.



Activity 2: Picture Analysis

Directions: Observe and analyze carefully the picture below and compare the statements below using >, <, = symbols.

1. AC _____ DF
2. AB _____ DE
3. BC _____ EF
4. $\angle A$ _____ $\angle D$
5. $\angle FDE$ _____ $\angle BAC$

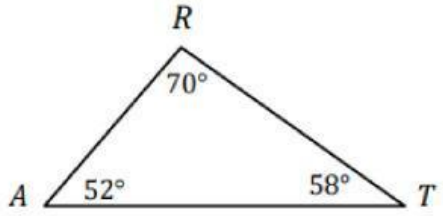


Assessment

Directions: Read each item carefully and shade the letter of your choice.

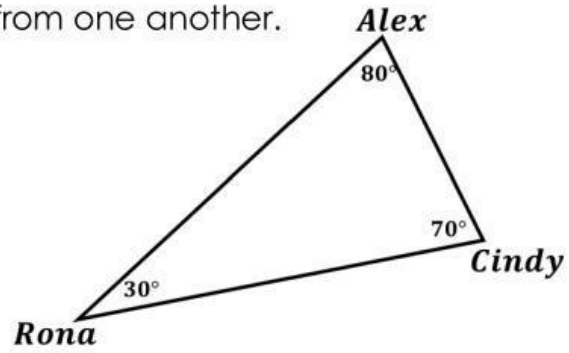
1. Which is always true about the measure of an exterior angle of a triangle?
   - ◯ A. It is less than the measure of its adjacent interior angle.
   - ◯ B. It is less than the measure of either of its remote interior angle.
   - ◯ C. It is greater than the measure of its adjacent interior angle.
   - ◯ D. It is greater than the measure of either of its remote interior angle.

For items 2-3, refer to ΔART at the right.



2. Which side is the longest?
   - ◯ A. AR
   - ◯ B. RT
   - ◯ C. AT
   - ◯ D. Cannot be determined.
3. What theorem is applicable in determining the shortest and longest side in ΔART?
   - ◯ A. Side-Angle Relationship Theorem
   - ◯ B. Angle-Side Relationship Theorem
   - ◯ C. Hinge Theorem
   - ◯ D. Converse of the Hinge

4. Shown at the right is the distance of 3 girls from one another. Who is closer to Rona?
   - ◯ A. Alex
   - ◯ B. Cindy
   - ◯ C. Both Alex and Cindy
   - ◯ D. Cannot be determined.



5. Two Triangles has the following dimensions –
   ΔABC – 16 cm, 15 cm, and 14 cm
   ΔXYZ – 16 cm, 15 cm, and 15 cm
   Which triangle will consume more meters of fence? What theorem is applied?

- ◯ A. ΔABC, By Hinge Theorem.
- ◯ B. ΔABC, By Converse of the Hinge Theorem.
- ◯ C. ΔXYZ, By Hinge Theorem.
- ◯ D. ΔXYZ, By Converse of the Hinge Theorem.