



DIVISION OF GEN. TRIAS CITY

Project ISuLAT – ACTIVITY SHEETS in MATHEMATICS 8 (Intensified Support to Learning Alternatives Through Activity Sheets)

Grade 8 - Week 2

Name: _____ Gr. & Sec.: _____

Name of Teacher: _____ Score: _____

MASTER ME

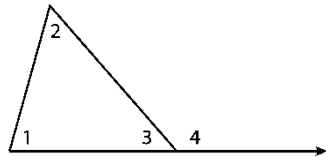
Most Essential Learning Competency - Applies theorems on triangle inequalities.

At the end of this activity sheet, you are expected to:

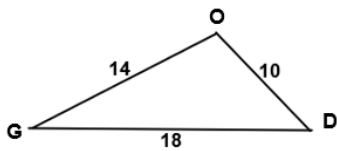
- identify the relationship between sides and angles of triangles;
- apply theorems on triangle inequalities; and
- recognize the importance of triangle inequalities in real life.

Triangle Inequality Theorems can be used to determine possible measures for the angles and sides of triangles and justify claims about the unequal relationships between side and angle measures. The theorems are the following:

Exterior Angle Inequality Theorem – The measure of the exterior angle is equal to the sum of the measures of the two remote interior angles. Thus, $m\angle 4 = m\angle 1 + m\angle 2$.

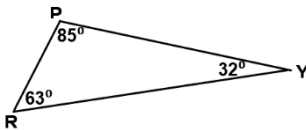


Triangle Inequality Theorem - Opposite the longest side is the largest angle. Opposite the largest angle is the longest side. The sum of the lengths of any two sides of a triangle is greater than the length of the third side.

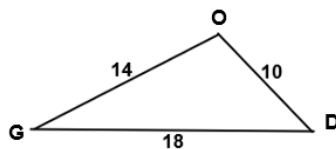


In the given figure at the left, since, \overline{GD} is the longest side, therefore the largest angle is $\angle O$.

\overline{OD} is the shortest side, therefore the smallest angle is $\angle G$.



In the given figure at the left, since $\angle P$ is the largest angle, therefore the longest side is \overline{RY} . $\angle Y$ is the smallest angle, therefore the shortest side is \overline{RP} .



In the given figure at the left, $\overline{GO} + \overline{OD} > \overline{GD}$. $14 + 10 > 18$.

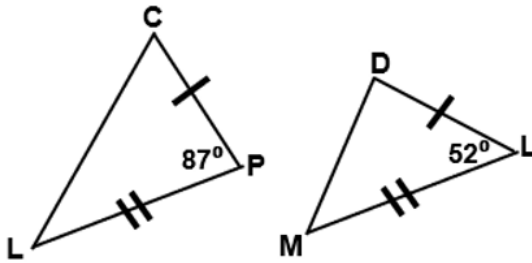
$\overline{GO} + \overline{GD} > \overline{OD}$. $14 + 18 > 10$. $\overline{OD} + \overline{GD} > \overline{GO}$. $10 + 18 > 14$.



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Hinge Theorem (SAS Inequality Theorem)

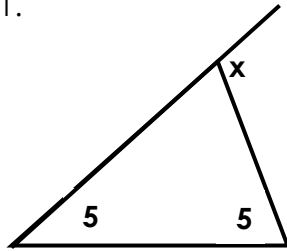


In the given figure at the left, $\overline{CP} \cong \overline{DL}$ and $\overline{LP} \cong \overline{ML}$, and $m\angle P > m\angle L$, then $\overline{LC} > \overline{MD}$.

ACTON

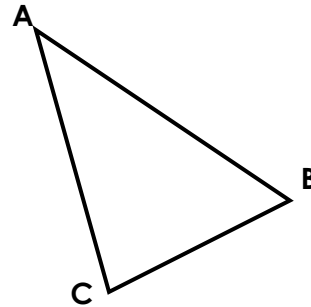
State the theorem on triangle inequalities that explains each figure below. Write your answer on the space provided.

1.



Exterior Angle Inequality

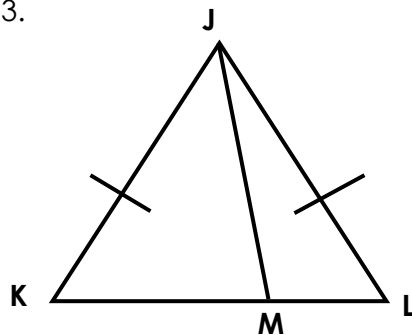
2.



Triangle Inequality Theorem

Hinge Theorem

3.





TRY MORE

Solve the problem.

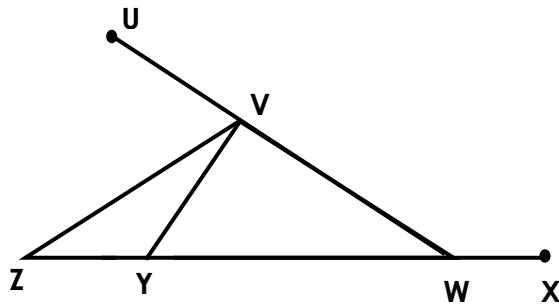
Last Christmas season, Dali supermarket located at Brookside Lane General Trias City, designed their store with triangular-shaped decorations surrounded by Christmas balls and flowers. Inspired by this design, Juana is planning to make only one triangle on the ceiling of her room this upcoming Christmas season. If she already has 24-inch and 35-inch long pieces of wood, what are the possible lengths of the third piece of wood that would help her create a triangle? (assuming that the pieces of wood are of the same widths)



Answer:

HARNESS SKILL

Apply the theorems on triangle inequalities to complete the given statements. Write your answer on the spaces provided.



1. In $\triangle YVW$, _____ and _____ are less than $m\angle VWX$.
2. In $\triangle VWZ$, _____ and _____ are less than $m\angle ZVU$.
3. In $\triangle YVZ$, _____ + _____ $>$ YZ .
4. In $\triangle VYW$, $YW <$ _____ + _____.
5. If $VZ < VW$ and $m\angle ZVY < m\angle WVY$, then _____ $<$ _____.