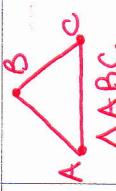


NOTES 5.1 – CLASSIFYING TRIANGLES

Triangles can be classified by either angles or sides.

Objective:

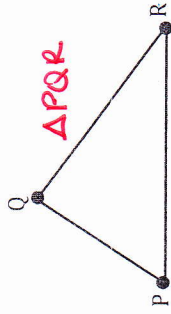
TERM	DESCRIPTION	SKETCH
Triangle	A plane, closed figure formed by 3 segments joining 3 non-collinear points.	

A triangle is made up of three components:

Vertices: P, Q, R

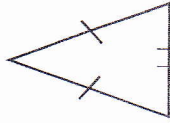
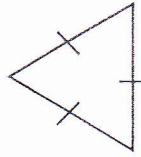
Sides: $\overline{PQ}, \overline{QR}, \overline{PR}$

Angles: $\angle P, \angle Q, \angle R$



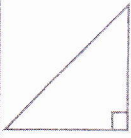
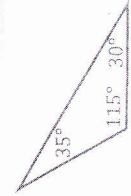
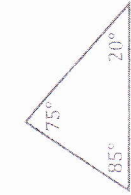
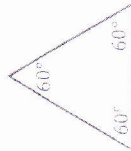
EXAMPLE 1: Classify each of the triangles by SIDES.

a) _____ b) _____ c) _____



EXAMPLE 2: Classify each of the triangles by ANGLES.

a) _____ b) _____ c) _____ d) _____



Acute	Triangle Sum Theorem
Obtuse	Isosceles
Right	Scalene
Equiangular	Equilateral

NOTES 5.1 – CLASSIFYING TRIANGLES

Triangles can be classified by either angles or sides.

Objective:

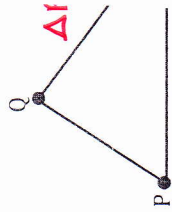
TERM	DESCRIPTION	SKETCH
Triangle	A plane, closed figure formed by 3 segments joining 3 non-collinear points.	

A triangle is made up of three components:

Vertices: P, Q, R

Sides: $\overline{PQ}, \overline{QR}, \overline{PR}$

Angles: $\angle P, \angle Q, \angle R$



EXAMPLE 1: Classify each of the triangles by SIDES.

a) b) c)

EXAMPLE 2: Classify each of the triangles by ANGLES.

a) b) c) d)

	The sum of the measures of the \angle s in a \triangle is 180° $m\angle A + m\angle B + m\angle C = 180^\circ$
	$\angle A$ is the vertex \angle . $\angle B \cong \angle C$ At least 2 \cong sides $\angle B$ & $\angle C$ are the base \angle s.
	No \cong sides
	$3 \cong$ sides $AB = BC = AC$

Notes 5.1 (Continued)

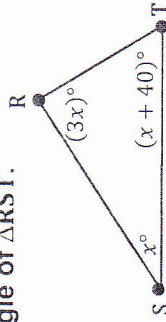
EXAMPLE 3: Find the measure of the third angle of a triangle, if the first angle has a measure of 66° and the second angle measures 37° .

EXAMPLE 4: Find the measure of each angle of $\triangle RST$.

$m\angle R =$ _____

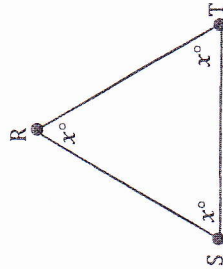
$m\angle S =$ _____

$m\angle T =$ _____



EXAMPLE 5: Find the value of 'x'.

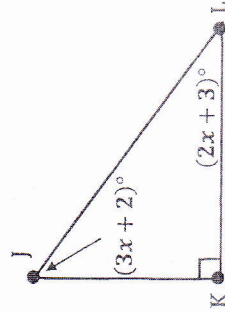
$x =$ _____



Based on this example, we can say that each angle of an equiangular triangle is 60° .

EXAMPLE 6: Find the value of 'x'.

$x =$ _____



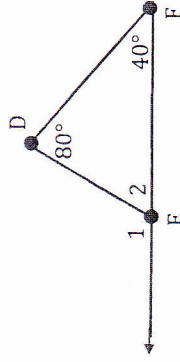
$\angle J$ and $\angle L$ are classified as **acute angles**. Since their sum is 90° , we can say that the acute angles of a right triangle are **complementary**.

An exterior angle of a triangle is formed by one side of the triangle and the extension of an adjacent side.

To find the measure of an exterior angle of a triangle, add the two remote interior angles.

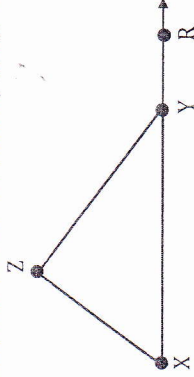
EXAMPLE 7: Find the measure of $\angle 1$.

$m\angle 1 =$ _____



EXAMPLE 8: In $\triangle XYZ$, $m\angle X = 63^\circ$ and $m\angle XYZ = 53^\circ$, find $m\angle ZYR$.

$m\angle ZYR =$ _____



EXAMPLE 9: In $\triangle EFG$, $m\angle G = 100^\circ$ and $m\angle FEH = 3 \cdot m\angle F$. Find $m\angle F$.

$m\angle F =$ _____

