Dear Parents / Students

Due to the unprecedented situation, Knowledgeplus Training center is mobilized and will keep accompanying and supporting our students through this difficult time. Our Staff will be continuously, sending notes and exercises on a weekly basis through what's app and email. Students are requested to copy the notes and do the exercises on their copybooks. The answers to the questions below will be made available on our website on knowledgeplus.mu/support.php. Please note that these are extra work and notes that we are providing our students and all classes will be replaced during the winter vacation. We thank you for your trust and are convinced that, together, we will overcome these troubled times.

# Knowledgeplus Training Center

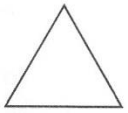
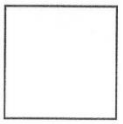
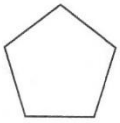
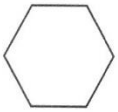
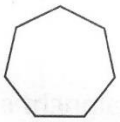
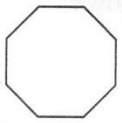
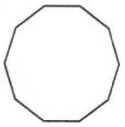
# Mathematics

# Garde 7

# Week 8

# Notes and Exercise

## Note:(All the Notes, Examples and Exercise are on the photos and Note:(Please copy all the Notes, Examples and Exercises on your copy book).

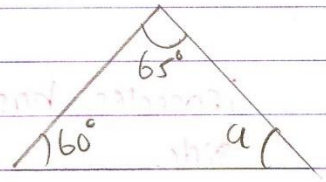
| Name of Polygon | Shape of Polygon | | Number of sides | Number of Angles |
|---|---|---|---|---|
| **Triangle** |  | 'Tri' means "three" e.g. Tri-cycle having three wheels | 3 | 3 |
| **Quadrilateral** |  | 'Quad" means four e.g. quadricolour or four colours | 4 | 4 |
| **Pentagon** |  | "penta" means five | 5 | 5 |
| **Hexagon** |  | "hexa" means six | 6 | 6 |
| **Heptagon** |  | "Hepta" means seven | 7 | 7 |
| **Octagon** |  | "Octa" means eight e.g. octopus | 8 | 8 |
| **Nonagon** |  | "nona" means nine | 9 | 9 |
| **Decagon** |  | "deca" means ten | 10 | 10 |

# Polygons

Finding unknown angles in a triangle.

Example

Find the value of a.




Solution

$a + 65° + 60° = 180°$ Remember: Sum of interior angles in a triangle is 180°

$a + 125° = 180°$

$a = 180° - 125°$

$a = 55°$

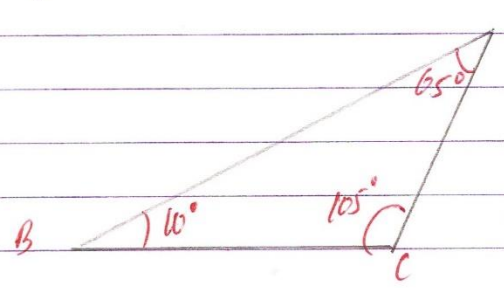
Types of Triangle

1. Scalene Triangle

A scalene triangle is a triangle in which all the sides are of different lenghts and all its angles are different sizes.

Example:

$AB \neq BC \neq AC$ and Angle BAC $\neq$ angle ABC $\neq$ angle BCA. So, $\Delta ABC$ is a scalene triangle




Symbols

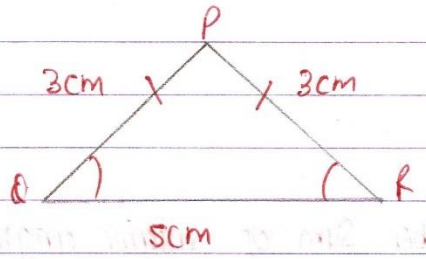
$\neq$ is not equal to

2. Isosceles Triangle

An isosceles triangle is a triangle in which two of its sides and two of its angles are equal.

Example:

$\Delta$ PQR is an isosceles triangle because it has two sides of equal lenght, namely PQ = PR and angle PQR = PRQ.




isosceles has 2 equal side.

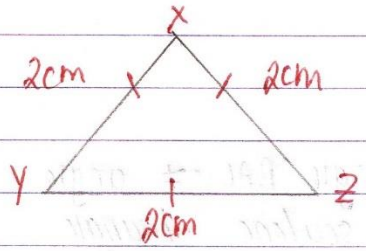
3. Equilateral Triangle

An equilateral triangle has all its sides of the same lenght. It is a regular polygon and still all its angles are of the same size as well.

Example:

$\Delta$ XYZ is an equilateral triangle.

$XY = XZ = YZ$ and $Y\hat{X}Z = X\hat{Y}Z = 60^\circ$ $\hat{Y} \rightarrow$ ^ $\rightarrow$ angle.




In equilateral triangle all side are equal.

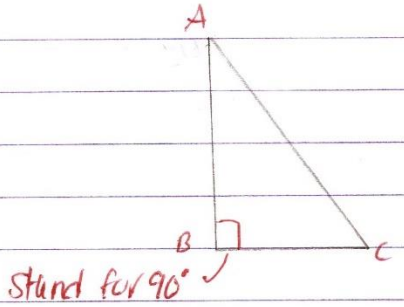
4 Right-Angled Triangle

A right-angled triangle is a triangle with one angle equal to 90°.

Example:

In △ ABC, $A\hat{B}C = 90°$.

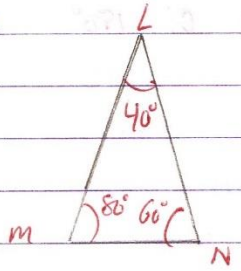
So, △ ABC is called a right-angled triangle.




5. Acute-Angled Triangle

Acute-Angled is a triangle with all its angles less than 90°.

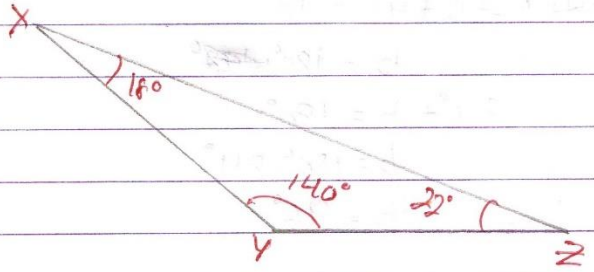
Example:




6. Obtuse-Angled Triangle:

Obtuse angled triangle is a triangle with one angle obtuse, i.e., than 180° but greater than 90°

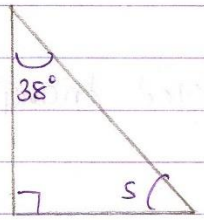
Example:



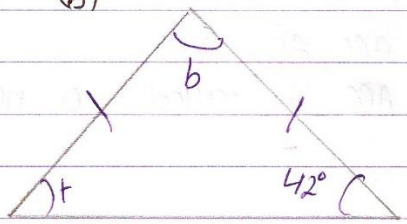
Example1

Find the unknown angles.

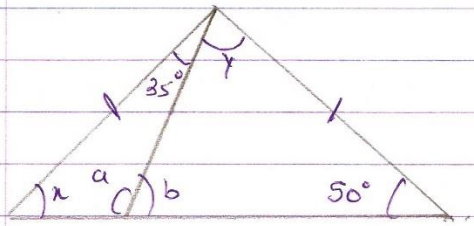
(a)




(b)




(c)




Solution

Remember all triangles have an interior angle of 180°

(a)

$S + 38^\circ + 90^\circ = 180^\circ$

$S + 128^\circ = 180^\circ$

$S = 180^\circ - 128^\circ$

$S = 52^\circ$

(b) as you can see the triangle (b) is an isoceles so t the angle $t = 42^\circ$

~~$t + 42^\circ = 18$~~ $42 + b + 42^\circ = 180^\circ$

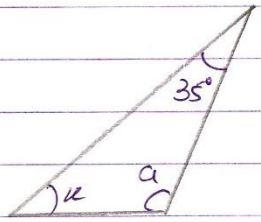
$b = 180^\circ$ ~~$- 42^\circ$~~

$84^\circ + b = 180^\circ$

$b = 180^\circ - 84^\circ$

$b = 96^\circ$

(c) for the type of question as (C) you must break apart the triangle to be able to answer the question.




$x = 50°$ As you can see that the whole triangle is an isoceles triangle so $x = 50°$

$50° + a + 35° = 180°$

$a + 85° = 180°$

$a = 180° - 85°$

$a = 95°$

$b = 180° - 95°$

$b = 85°$

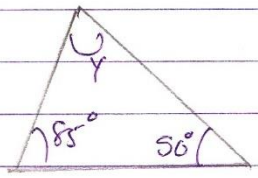
As you can see b is on a straight line. A straight line angle is 180°, as you can see $a = 95°$. So you will have to substract 180° with 95° to find b.

$y + 85° + 50° = 180°$

$y + 135° = 180°$

$y = 180° - 135°$

$y = 45°$



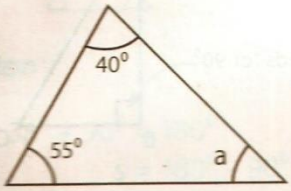

$\therefore a = 95°$, $b = 85°$, $y = 45°$

## Attempt:Ex1, Ex 2 and Ex3.

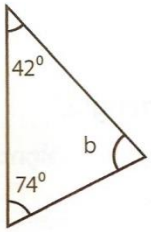
## Ex1

1. Find the size of each of the marked angles.

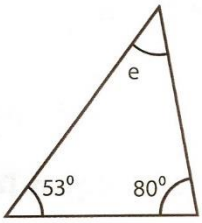
(i)



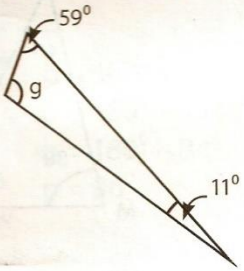

(ii)



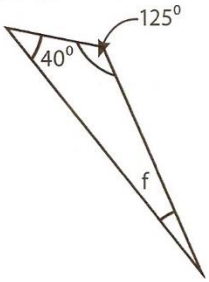

(iii)



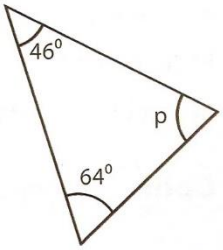

(iv)




(v)




(vi)

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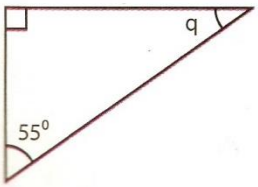
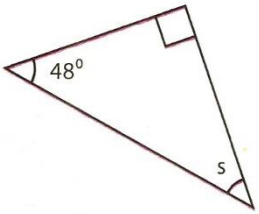
## Ex2

1. Find the unknown angles:

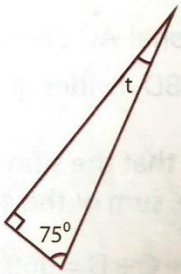
(i)



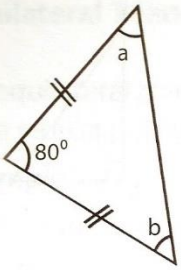

(ii)



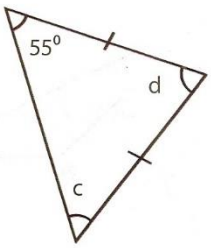

(iii)



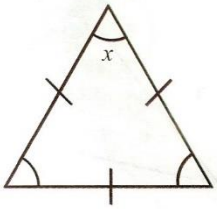

(iv)




(v)



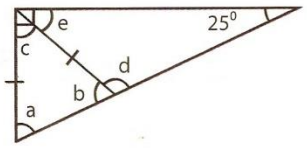

(vi)



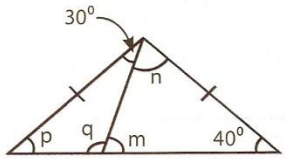
# Ex3

2. Find the unknown angles:

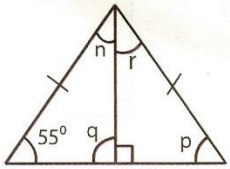
(i)



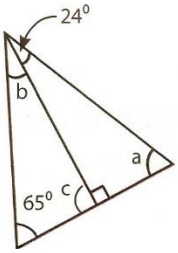

(ii)




(iii)




(iv)

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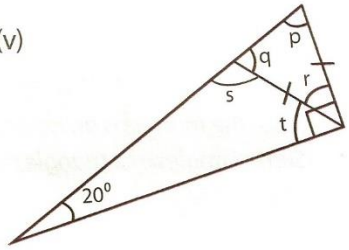


(vi)