

WEEK: NINE
SUBJECT: TECHNICAL DRAWING.
CLASS: SS1.
TOPIC: CIRCLE

CIRCLE

A circle is a plane figure bounded by a curved line called the circumference which is equidistant to the centre of circle from any point. It is also a polygon of infinite side.

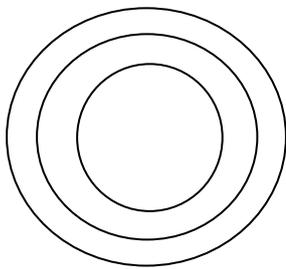
Types of circles

There are basically two types of circles;

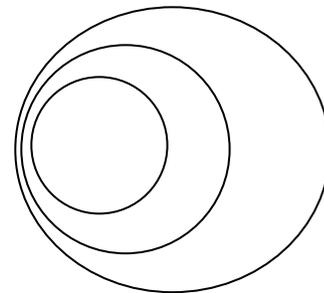
1. Concentric circles and;
2. Eccentric circles

Concentric circles are two or more circles that have a common centre but different radii

Eccentric circles are two or more circles that have different centres and different radii.



Concentric circles



Eccentric circles

Parts of a circle

The various parts of a circle are;

- (a) Arc (b) circumference (c) tangent (d) point of tangence (e) chord (f) sector (g) segment
(d) radius (i) diameter (j) quadrant (k) centre

An arc: This is any part of the circumference of a circle.

Circumference: This is the close curved line that bounds the circle.

Tangent: This is a straight line that touch the circumference of a circle at a point but does not cut it.

Point of tangence: This is the point where the tangent makes contact with the circle

Chord: This is a straight line which join any two pint on the circumference of a circle.

Sector: This is a point of a circle bounded by two radii and an arc.

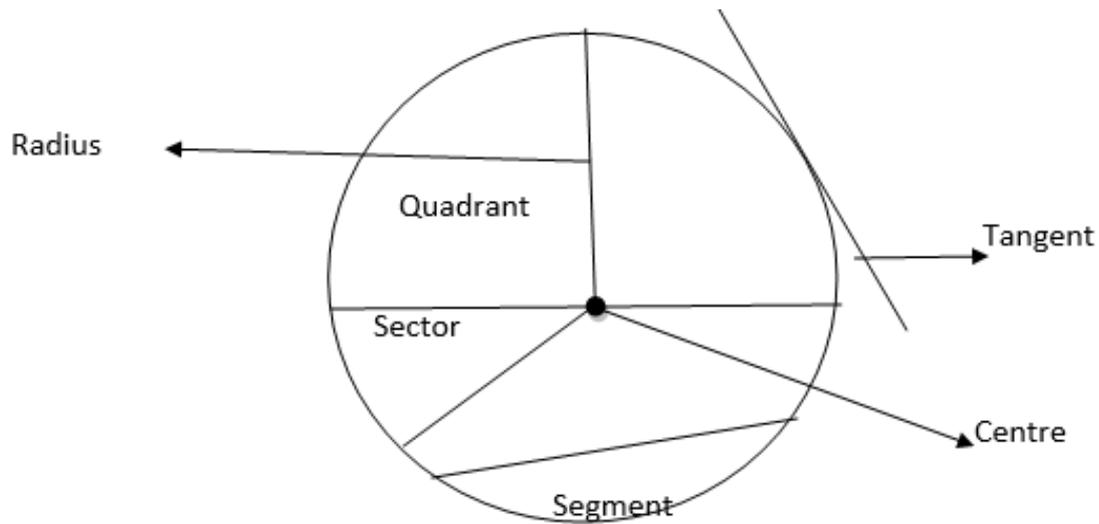
Segment: This is a part of a circle bounded by a chord and an arc.

Radius: This is a straight line that joins the centre of a circle to any point on the circumference of a circle.

Diameter: This is a straight line (a chord) that passes through the centre to touch any two point on the circumference of a circle.

Quadrant: This is an area of a circle bounded by two radii (which are at right angle) and on arc. It is one quarter of a circle.

Centre: This is a point in the circle that is of equal distance to any point to the circumference of a circle.

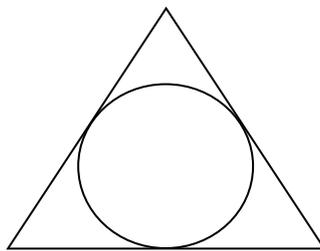


INSCRIPTION AND CIRCUMSCRIPTION

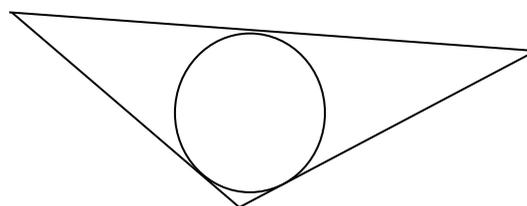
Inscription means to construct a circle inside another given figure to touch all its sides.

Circumscription means to construct a circle around a given shape to touch all its vertices.

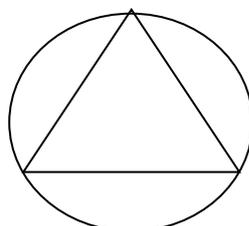
To inscribe a given equilateral triangle



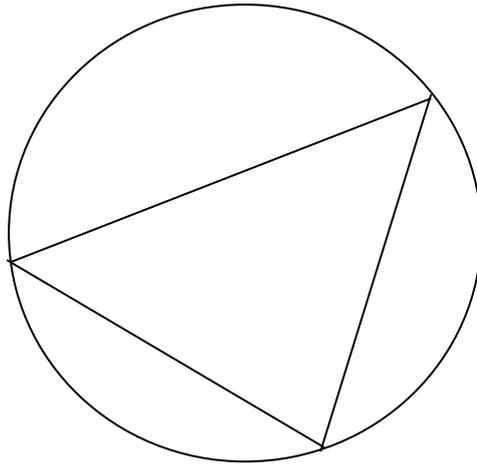
To inscribe a given scalene triangle



To circumscribe a given equilateral triangle



To circumscribe a given scalene triangle



The golden rules;

To inscribe, bisect any two angles of the triangle then, pin at the point of intersection of the two bisectors to inscribe.

To circumscribe, bisect any two sides of the triangle then, pin at the point of intersection of the two bisectors to circumscribe.

ASSIGNMENT:

1. Inscribe a given equilateral triangle of 50mm sides.
2. Circumscribe a given a scalene triangle of sides 40mm, 40mm and 50mm