SHEET 1

PENANG SANGAM HIGH SCHOOL

P. O. BOX 44, RAKIRAKI

LESSON NOTES - 8

SCHOOL: PENANG SANGAM HIGH **SUBJECT: BASIC TECHNOLOGY** **YEAR/ LEVEL: 9A,B,C,D**

Strand	BT9.2: GEOMETRY
Sub - Strand	BT9.2.2 GEOMETRICAL CONSTRUCTIONS
Content Learning Outcome	BT9.2.2.2 Identify and develop skills in geometrical construction methods utilized in making various types of polygons.

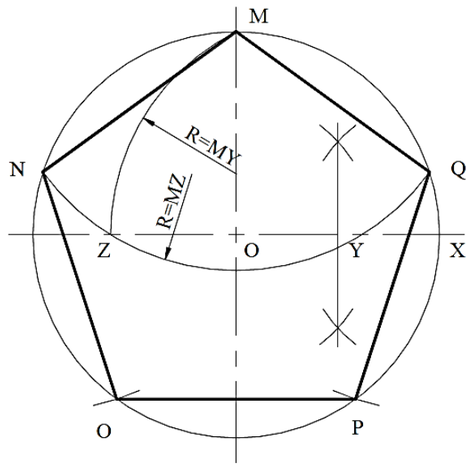
POLYGONS

- A **polygon** is a 2-dimensional closed plane figure bounded by several lines that are joined together.
- Polygons may be regular or irregular.
- The centre of a polygon is obtained by bisecting any two internal angles.

WORKED EXAMPLE

To construct a regular pentagon MNOPQ, within a given circle.

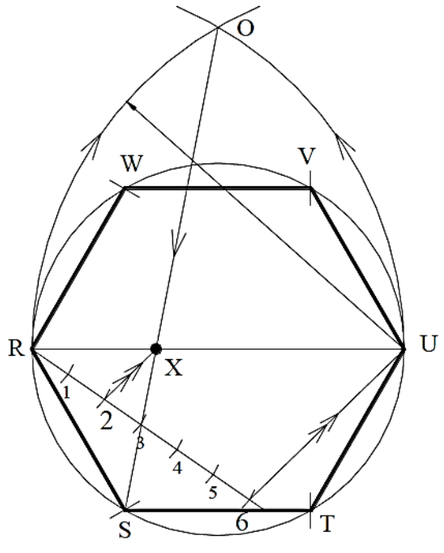
1. Bisect any one radius on the centre lines e.g. OX, to find point Y.
2. With centre Y and radius MY, draw an arc from M to intersect with the centre line on the opposite side at point Z.
3. With centre M and radius MZ draw arcs to either sides N &Q on the circumference of the circle.
4. Using the same radius (MZ) step off on the circumference to find points O&P.
5. Join the points to form the regular pentagon.



WORKED EXAMPLE

To construct any regular polygon within a given circle e.g. Hexagon.

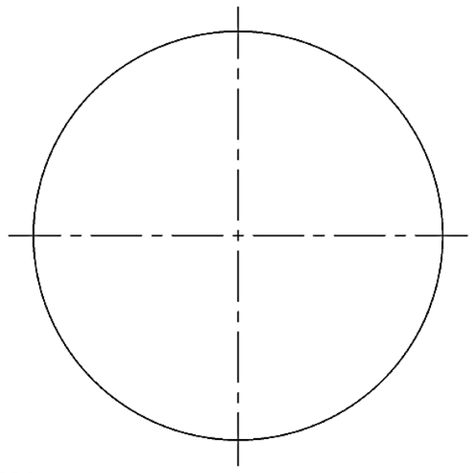
1. Draw a line at any convenient angle from R and mark six points with equal radius.
2. Join point 6 to point U.
3. Draw a line parallel to line 6U to the diameter at point X..
4. With centre"s R & U, draw arcs using radius RU to intersect at point O.
5. Draw a line from O through point X to intersect the circumference of the circle at S.
6. With length RS as first side, step off on the circumference to find points T, V & W.
7. Join the points to form the regular pentagon.



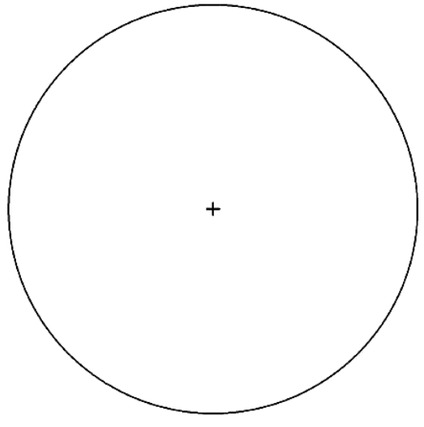
QUESTION 1

Given: Circle

Required: Construct a regular pentagon LMNOP within the circle.



QUESTION 2

Given: Circle

Required: Construct a regular hexagon ABCDEF within the circle .