



Provincial Department of Education - Sabaragamuwa – Week School

Subject - Mathematics

Week – 8th Week – 13th – 19th Dec, 2020

Grade: 10

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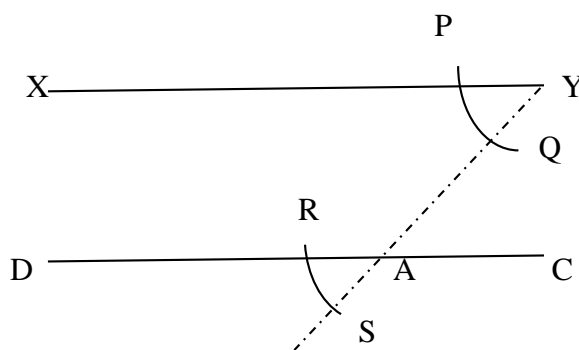
Kg/Dehi Dr. N.M. Perera National School

Lesson 28 - Constructions

Constructing a parallel line to a given straight line through an external point

Method 1 (using Corresponding angles)

- Step : Draw a straight line passing through the points A and Y
- Step : Draw an arc on XYA taking Y as the centre. Name this arc PQ
- Step : Taking the same radius (that is, without changing the position of the pair of compasses), draw another arc with C as the Centre, such that the intersects YA produced at S.
- Step 4 : Draw the straight line CD through the point A and R. Since the angle RAS and QYP are corresponding angles which are equal to each other. The straight lines XY and CD are parallel to each other.



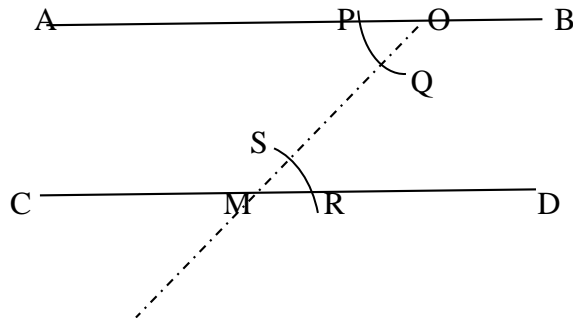
Method 2 (using Alternate angles)

Let us assume that the straight line is AB and the external point is M

- Step 01 : Join OM
- Step 02 : Draw an arc on AOM, taking A as the centre. Name this arc PQ
- Step 03 : Taking the same radius, draw another arc with M as the centre such that it

intersect OM at the point.

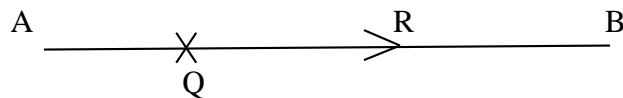
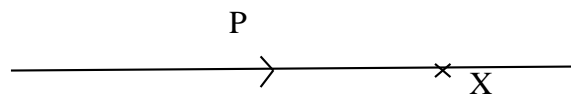
- Step 04 : Mark the point R on this arc such that R s is equal in length to PQ
- Step 05 : Draw CD straight line intersecting MR. Then SMR and AOM are alternate angles. Therefore AB and CD are parallel.



Method 3

Let us assume the straight line is AB and the external point is P

- Step 01 : Using a pair of compasses draw an arc with centre P such that it intersects AB. Name the point of intersection as 'Q'
- Step 02 : Draw another arc with centre Q and the same radius as that of the previous arc (keeping the radius PQ unchanged), such that it intersects AB. Name the intersection point as R.
- Step 03 : Draw another arc with centre R and the same radius as before, in the direction of P.
- Step 04 : Now draw another arc with centre P and the same radius as before, such that it intersects to arc in step 3. Name the intersection point of the arcs as X
- Step 05 : Join PX. Then PX is parallel to AB.



Complete the exercise 28.2