**Provincial Department of Education - Sabaragamuwa – Week School**

**Subject - Mathematics**

**Week – 41**

**Grade: 10**
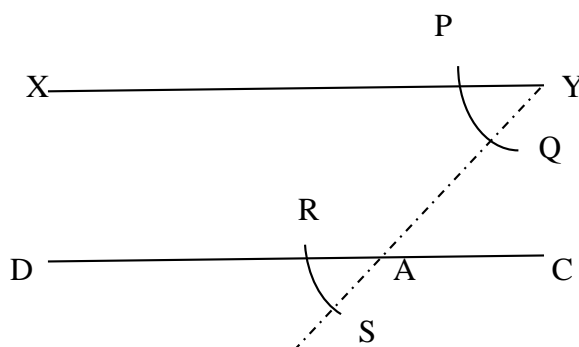
**Translated by: Mr. D.G.D. Deshapriya**

**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 are 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.
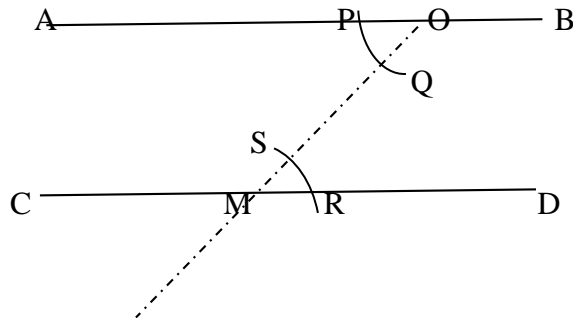


**Method 2** (using Alternate angles)

Let us assume that the straight line is AB and the external points 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
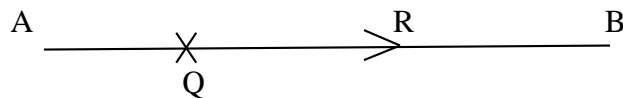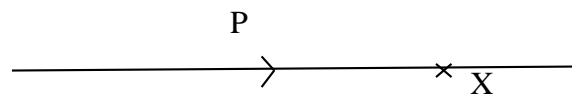
intersect OM at the point.

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