

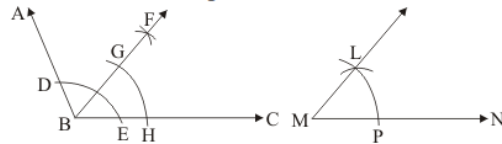


### Constructions Ex 17.2 Q3

**Answer :**

We are asked to draw an angle of  $108^\circ$ , using protractor and obtain an angle of  $54^\circ$

We will follow certain algorithm for this construction



Steps of construction

STEP1: Using the protractor, draw  $\angle ABC$  of measure  $108^\circ$ .

STEP2: With centre B, and taking any radius, draw an arc, intersecting the ray BA and the ray BC at point D and E respectively.

STEP 3: With D and E as centre and radius greater than half of DE, draw arcs to intersect each other at say F.

STEP 4: Draw the ray BF. This is the angle bisector of  $\angle ABC$ . So  $\angle FBC = 54^\circ$ .

STEP 5: With centre B and taking any radius, draw an arc intersecting the ray BF and the ray BC at G and H respectively.

STEP 6: Draw a ray MN.

STEP 7: With centre M and taking the same radius as in STEP 5, draw an arc intersecting the ray MN at point P.

STEP 8: With centre P and taking radius equal to HG, draw an arc intersecting the arc drawn in STEP 7, at point L.

STEP 9: Draw the ray ML.

$\angle LMN$  is the desired angle of measure  $54^\circ$ .

\*\*\*\*\* END \*\*\*\*\*