

Exercise 17.2

Question 1: Draw an angle and label it as $\angle BAC$. Construct another angle, equal to $\angle BAC$.

Solution:

Steps of construction:

Step 1: Draw any angle ABC.

Now will construct an angle equal to $\angle BAC$

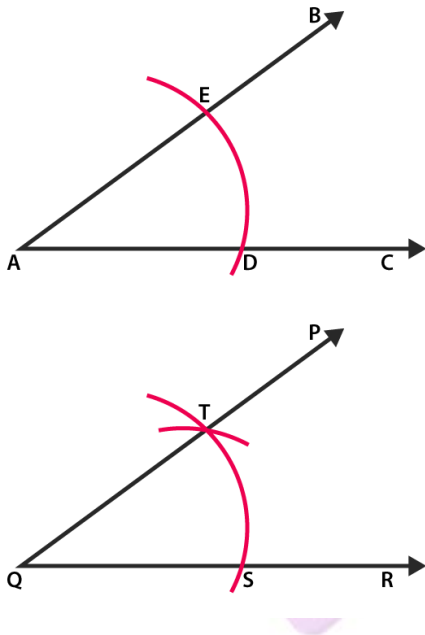
Step 2: Draw a line segment QR.

Step 3: Draw an arc which intersects $\angle BAC$ at E and D using A as center and choose any radius.

Step 4: With same measurements (set in step 2), Draw an arc from point Q.

Step 5: With S as center and radius equal to DE, draw an arc which intersects the previous arc at T.

Step 6: Join Q and T.



Therefore $\angle PQR = \angle BAC$

Question 2: Draw an obtuse angle. Bisect it. Measure each of the angles so formed.

Solution:

Steps of construction:

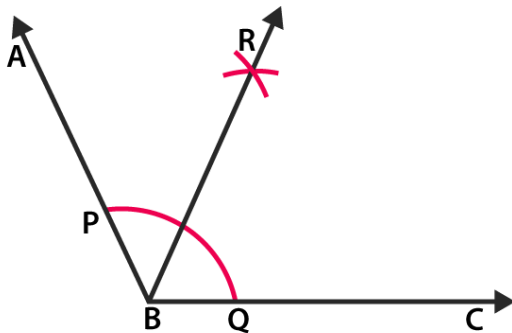
Step 1: Draw an obtuse angle. We choose $\angle ABC = 120^\circ$.

Step 2: Draw an arc which intersects AB at P and BC at Q, from center B and choose any radius.

Step 3: Draw an arc from point P by setting radius more than half of PQ.

Step 4: Repeat step 3 using Q as center and cut the previous arc at R.

Step 5: Join BR.



Therefore $\angle ABR = \angle RBC = 60^\circ$

Question 3: Using your protractor, draw an angle of 108° . With this given angle as given, draw an angle of 54° .

Solution:

Steps of construction:

Step 1: Draw $\angle ABC = 108^\circ$.

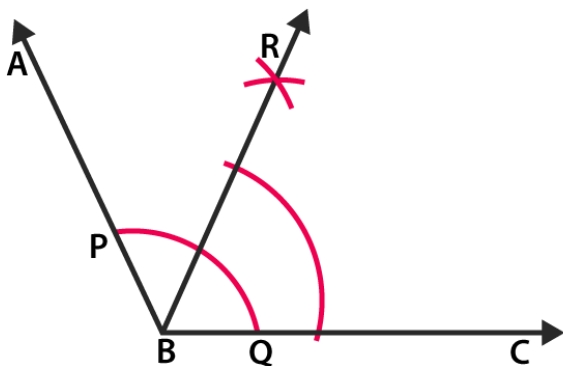
Step 2: Draw an arc which intersects AB at P and BC at Q from point B. (Choose any radius)

Step 3: Draw an arc from point P by setting radius more than half of PQ.

Step 4: Repeat Step 3 using Q as the centre and intersect the previous arc at R.

Step 5: Join BR.

Therefore $\angle RBC = 54^\circ$



Question 4: Using the protractor, draw a right angle. Bisect it to get an angle of measure 45° .

Solution:

Steps of construction:

Step 1: Draw $\angle ABC = 90^\circ$.

Step 2: Draw an arc which intersects AB at P and BC at Q from point B. (Choose any radius)

Step 3: Draw an arc from point P by setting radius more than half of PQ.

Step 4: Repeat step 3 using Q as a centre and intersect the previous arc at R.

Step 5: Join RB.

Therefore $\angle RBC = 45^\circ$

