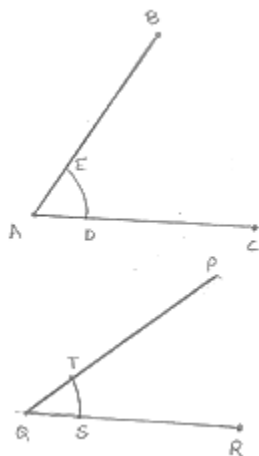


Constructions-17.2

1.

Sol:



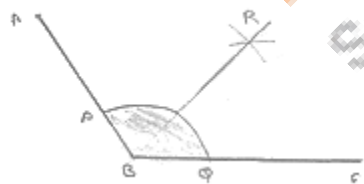
Steps of construction:

1. Draw an angle ABO and a Line segment QR
2. With center A and any radius, draw an arc which intersects $\angle BAC$ at E and O
3. With center Q and same radius draw arc which intersect QR at S .
4. With center S and radius equal to DE , draw an arc which intersect previous arc at T
5. Draw a line segment joining Q and T

$$\therefore \angle PQR = \angle BAC$$

2.

Sol:



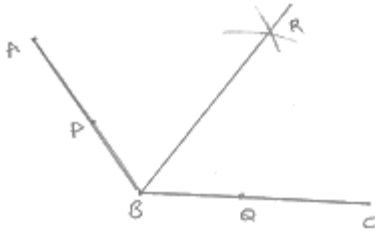
Steps of construction:

1. Draw angle ABC of 120°
2. With center B and any radius, draw an arc which intersects AB at P and which BC at Q
3. With center P and Q and radius more than $\frac{1}{2}PQ$, draw two arcs, with intersect each other at R .
4. Join BR

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

3.

Sol:

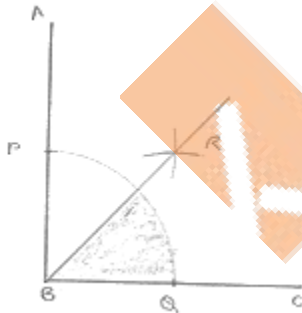


Steps of construction:

1. Draw an angle $\angle ABC$ of 108°
2. With center B and any radius, draw an arc which intersects AB at P and BC at Q
3. With center P and Q and radius more than $\frac{1}{2}PQ$, draw two arcs, which intersect each other at R.
4. Join BR
 $\therefore \angle RBC = 54^\circ$

4.

Sol:

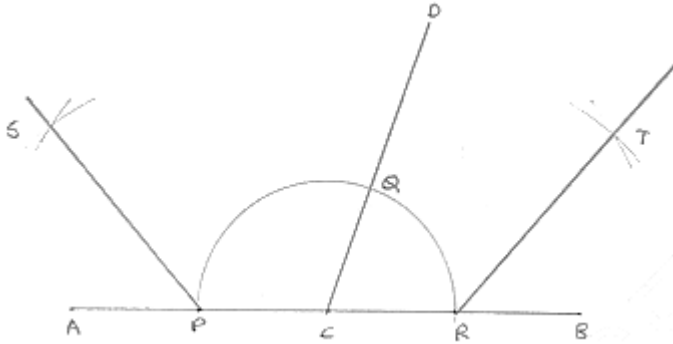


Steps of construction:

1. Draw an angle $\angle ABC$ of 90°
2. With center B and any radius, draw an arc which intersects AB at P and BC at Q
3. With center P and Q and radius more than $\frac{1}{2}PQ$, draw two arcs, which intersect each other at R.
4. Join RB
 $\therefore \angle RBC = 45^\circ$

5.

Sol:



Steps of construction:

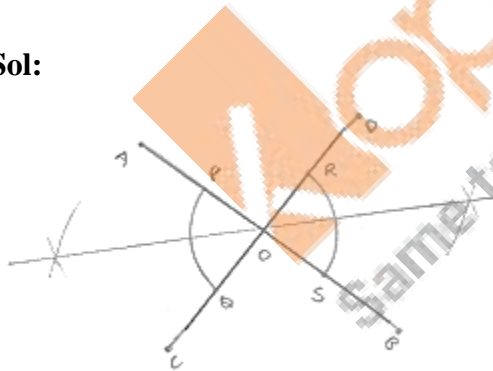
1. Draw an angle DCA and DCB forming Linear pair
2. With center C and any radius, draw an arc which intersects AC at P, CD at Q and CB at R.
3. With center P and Q and any radius draw two arcs which intersect each other at S
4. Join SC
5. With center Q and R any radius draw two arcs, which intersect each other at T.
6. Join TC

$$\angle SCT = 90^\circ$$

[By using protractor]

6.

Sol:



Steps of construction:

1. Draw a pair of vertically opposite angle AOC and DOB
2. With center O and any radius drawn two arcs which intersect OA at P, OB at S and OD at R.
3. With center P and Q and radius more than $\frac{1}{2}PQ$, draw two arcs which intersect each other at 7.
4. Join to

5. With center R and S radius more than $\frac{1}{2}RS$, draw two arcs which intersect each other at

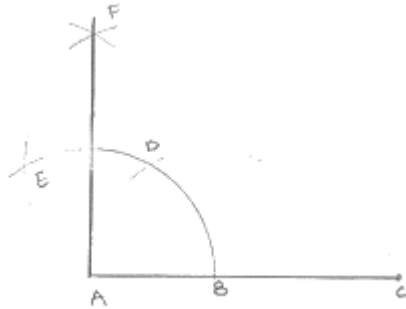
O.

6. Join OU.

$\therefore TOU$ is a straight line

7.

Sol:

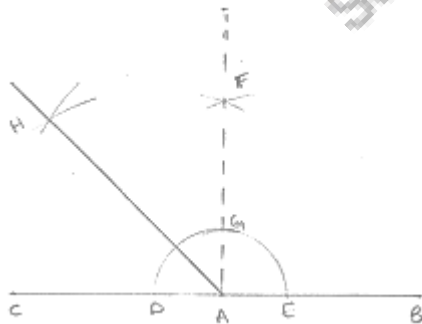


Steps of construction:

1. Draw a line segment AB
 2. With center B and any radius drawn arc which intersects AB at C.
 3. With center C and same radius drawn an arc which intersects arc in (2) at D.
 4. With center D and same radius S drawn arc which intersects arc in (2) at E.
 5. With centers E and C and any radius, drawn two arcs which intersect each other at F.
 6. Join FA
- $\angle FAB = 90^\circ$

8.

Sol:



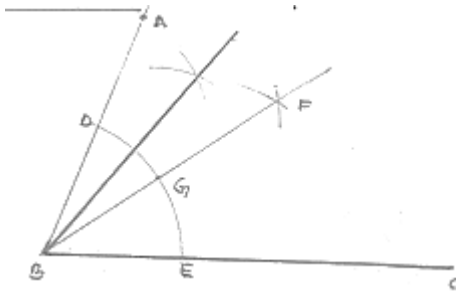
Steps of construction:

1. Draw a line segment AB and produce BA to point C.
2. With center A and any radius drawn arc which intersects AC at D and AB at E.

3. With center D and E and radius more than $\frac{1}{2}DE$, draw two arcs which intersect each other at F.
4. Join FA which intersect the arc in (2) at G.
5. With centers G and D and radius more than $\frac{1}{2}GD$, draw two arcs which intersect each other at H.
6. Join HA
 $\therefore \angle HAB = 135^\circ$

9.

Sol:



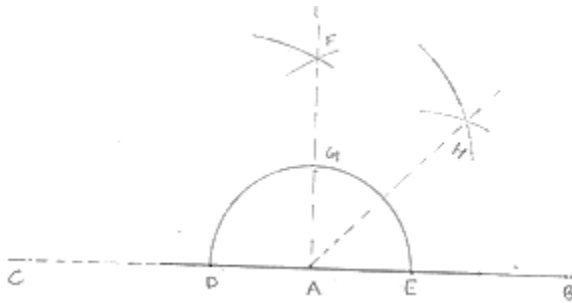
Steps of construction:

1. Draw an angle ABC of 72° with the help of protector.
2. With center B and any radius, draw an arc which intersect AB at D and BC at E.
3. With center D and E and radius more than $\frac{1}{2}DE$, draw two arcs which intersect each other at F.
4. Join FB which intersect the arc in (2) at G.
5. With centers D and G and radius more than $\frac{1}{2}DG$, draw two arcs which intersect each other at H.
6. With centers D and G and radius more than $n\frac{1}{2}DG$ draw two arcs which intersect each other at H
7. Join HB
 $\therefore \angle HAB = 54^\circ$
 $\angle FBC = 36^\circ$

10.

Sol:

(i)

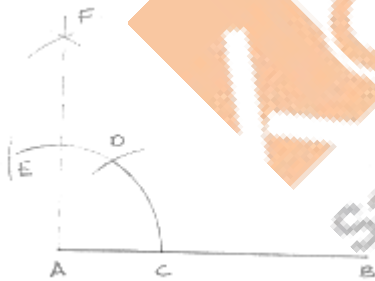


Steps of construction:

1. Draw a line segment AB and produce BA to point C.
2. With center A and any radius drawn an arc which intersect AC at D and AB at E.
3. With center D and E and radius more than $\frac{1}{2}DE$, draw arcs cutting each other at F.
4. Join FA which intersect arc in (2) at G.
5. With centers G and D and radius more than $\frac{1}{2}GE$, draw arcs cutting each other at H.
6. Join HA

$$\therefore \angle HAB = 45^\circ$$

(ii)



Steps of construction:

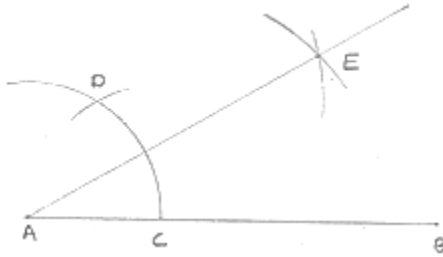
1. Draw a line segment AB.
2. With center A and any radius drawn in arc which intersect AB at C.
3. With center C and same radius drawn an arc which intersects are in (2) E.
4. With centers E and D same radius draw an arc which intersects are in (2) at F.
5. Join HA

$$\angle FAB = 90^\circ$$

11.

Sol:

(i)



Steps of construction:

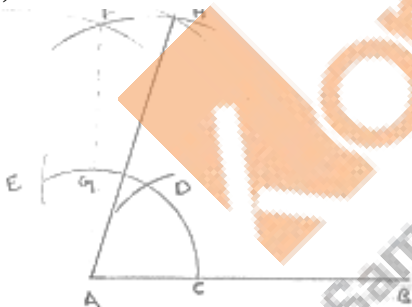
1. Draw a line segment AB.
2. With center A and any radius, draw an arc which intersect AB at C.
3. With center C and same radius, draw an arc which intersects previous arc at D.
4. With centers D and C and radius more than $\frac{1}{2}DC$, draw arcs intersecting each other at

E

5. Join EA

$\therefore \angle EAB = 30^\circ$

(ii)



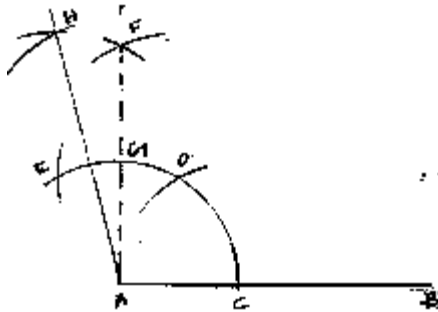
Steps of construction:

1. Draw a line segment AB.
 2. With center A any radius, draw an arc which intersect AB at C.
 3. With center C and same radius, draw an arc which intersects previous arc at D.
 4. With center D and same radius, draw an arc which interest are in (2) at E
 5. With centers E and D and radius more than $\frac{1}{2}EN$, draw arcs intersecting each other at
- F.
6. Join FA which intersects arc in (2) at G
 7. With centers G and D, and radius more than $\frac{1}{2}GD$, draw arcs intersecting each other at
- H.

8. Join HA

$$\therefore \angle HAB = 75^\circ$$

(iii)

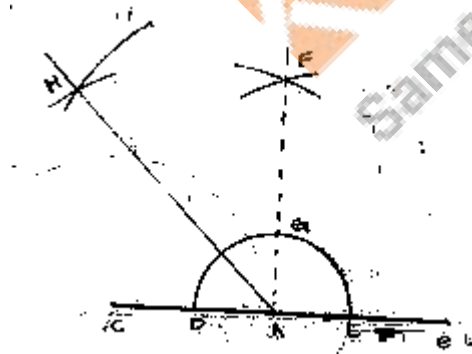


Steps of construction:

1. Draw a line segment AB.
2. With center A and any radius, draw an arc which intersect AB at C.
3. With center C and same radius, draw an arc which intersects previous arc at D.
4. With center D and same radius, draw an arc which intersect in (2) at E
5. With centers E and D and radius more than $\frac{1}{2}ED$, draw arcs intersecting each other at F.
6. Join FA which intersects arc in (2) at G
7. With centers E and G, and radius more than half of EG, draw arcs intersecting each other at H.
8. Join HA

$$\angle HAB = 105^\circ$$

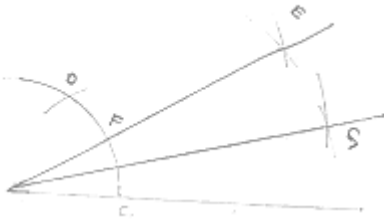
(iv)



Steps of construction:

1. Draw a line segment AB and produce BA to pint C
2. With center A and any radius, draw an arc which intersect AC to D and AB at E.
3. With center D and E and radius more than half of DE, draw two arcs which intersects each other at F.
4. Join FA which intersect the arc in (2) at G

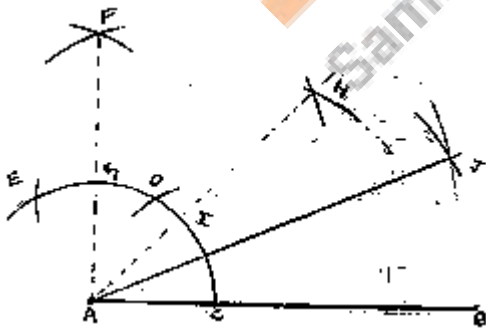
5. With center G and D radius more than $\frac{1}{2}GD$, draw two arcs which intersect each other at H
6. Join HA
 $\angle HAB = 135^\circ$
- (v)



Steps of construction:

- Step 1: Draw a line segment AB
- Step 2: with center A and any radius, draw an arc which intersects previous arc at RC
- Step 3: with center C and same radius, draw an arc which intersect previous arc at D
- Step 4: with center D and C radius more than half of DC draw arcs intersecting each other at E
- Step 5: Join EA which intersects arc in (2) at F.
- Step 6: With centers F and C and radius more than $\frac{1}{2}FC$, draw arcs intersecting each other
- Step 7: Join GA
 $\therefore \angle GAB = 15^\circ$

(vi)



Steps of construction:

- Step 1: Draw a line segment AB
- Step 2: with center A and any radius, draw an arc which intersects AB at C
- Step 3: with center C and same radius, draw an arc which intersect previous arc at D
- Step 4: with center D and same radius, draw an arc which intersects arc in (2) at E.

Step 5: with center E and D and radius more than half of ED, draw arcs intersecting each other at F.

Step 6: Join FA which intersects arc in (2) at G

Step 7: with center G and C and radius more than half of GC, draw arcs intersecting each other at H

Step 8: Join HA which intersects arc in (2) at I.

Step 9: with centers I and C and radius more than half of IC, draw arcs intersecting each other

Step 10: Join JA

$$\therefore \angle JAB = 22\frac{1}{2}^\circ.$$

