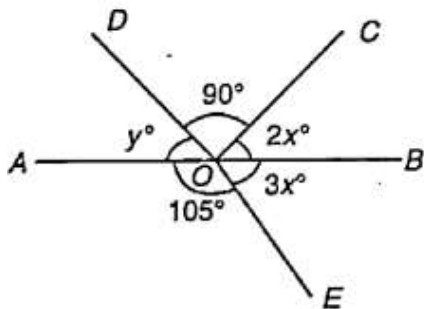


GEOMETRY

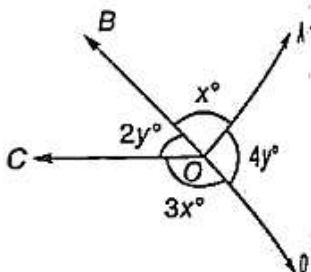
(Ref: FM-QAH2022010)

Line & Angle

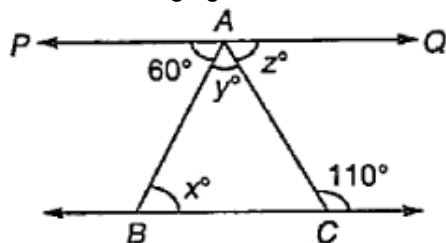
1. In the following figure, AB is a straight line. Find $(x + y)$:



- a) 55° b) 65°
c) 75° d) 80°
2. Find y , if $x^\circ = 36^\circ$, as per the given diagram:



- a) 36° b) 16°
c) 12° d) 42°
3. If $(2x + 17)^\circ$, $(x + 4)^\circ$ are complementary, find x :
a) 63° b) 53°
c) 35° d) 23°
4. If $(5y + 62)^\circ$, $(22^\circ + y)$ are supplementary, find y :
a) 16° b) 32°
c) 8° d) 1°
5. In the following figure find the value of y :



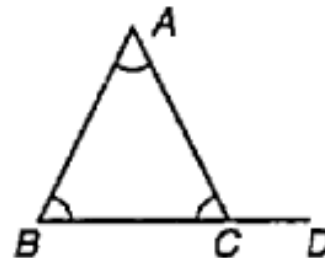
- a) 70° b) 60°
c) 50° d) 80°

Triangles

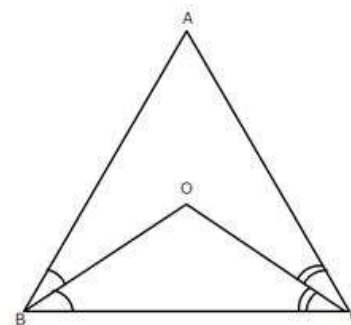
6. The sides of a triangle are 12 cm, 8 cm, and 6 cm respectively, the triangle is:
a) acute b) obtuse
c) right d) can't be determined

7. If sides of a Δ are 9, 12 & x where x is the integer. For how many values of x , a triangle can be formed.

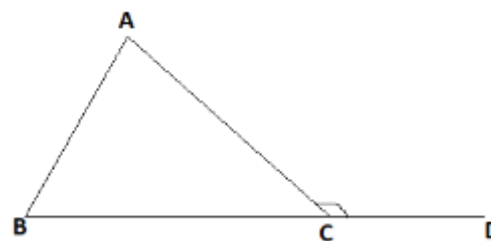
8. In the given figure BC is produced to D and $\angle BAC = 40^\circ$ and $\angle ABC = 70^\circ$. Find the value of



- a) 30° b) 40°
c) 70° d) 110°
9. If the angles of a triangle are in the ratio 1 : 4 : 7, then the value of the largest angle is:
a) 135° b) 84°
c) 105° d) none of these
10. In the adjoining figure $\angle B = 70^\circ$ and $\angle C = 30^\circ$. BO and CO are the angle bisectors of $\angle ABC$ and $\angle ACB$. Find the value of $\angle BOC$

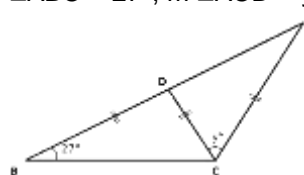


- a) 30° b) 40°
c) 120° d) 130°
11. In the triangle ABC, side BC is produced to D. $\angle ACD = 100^\circ$ if $BC = AC$, then $\angle ABC$ is:



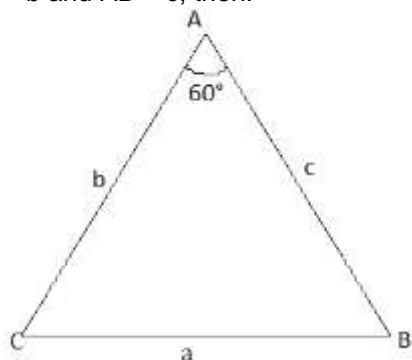
- a) 40° b) 50°
c) 80° d) can't be determined

12. In the following figure ADBC. $BD = CD = AC$, $m \angle ABC = 27^\circ$, $m \angle ACD = y$. Find the value of y :



- a) 27° b) 54°
c) 72° d) 58°

13. In the adjoining figure $\angle BAC = 60^\circ$ and $BC = a$, $AC = b$ and $AB = c$, then:

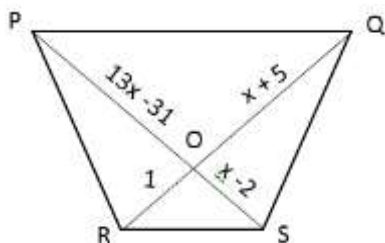


- a) $a^2 = b^2 + c^2$
 b) $a^2 = b^2 + c^2 - bc$
 c) $a^2 = b^2 + c^2 + bc$
 d) $a^2 = b^2 + 2bc$
14. The perimeters of two similar triangles $\triangle ABC$ and $\triangle PQR$ are 36 cm and 24 cm respectively. If $PQ = 10$ cm, then AB is -
 a) 10 cm b) 15 cm
 c) 20 cm d) 25 cm

15. In $\triangle ABC$ line PQ is drawn parallel to side BC where P and Q are respectively lie on side AB and AC . If $AB = 3AP$, what is the ratio of area of $\triangle APQ$ to area of $\triangle ABC$?
 a) 1 : 3 b) 1 : 5
 c) 1 : 7 d) 1 : 9

16. ABC is a triangle, PQ is line segment intersecting AB in P and AC in Q and $PQ \parallel BC$. The ratio of $AP : BP = 3 : 5$ and length of PQ is 18 cm. The length of BC is
 a) 28 cm b) 48 cm
 c) 84 cm d) 42 cm

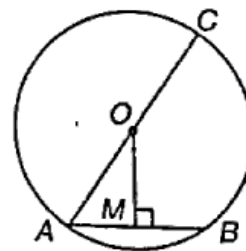
17. If $PQ \parallel RS$, find the value of x



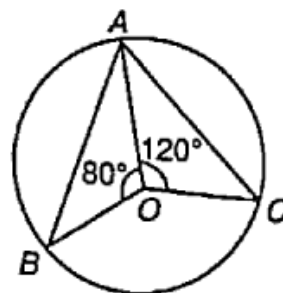
- a) 7 b) 3
 c) Both A & B d) None
18. An equilateral triangle of side 6 cm is inscribed in a circle. Then radius of the circle is
 a) $2\sqrt{3}$ cm b) $3\sqrt{2}$ cm
 c) $4\sqrt{3}$ cm d) $\sqrt{3}$ cm
19. If centre of incircle of triangle ABC is O and $\angle BOC = 110^\circ$, then what is the value of $\angle BAC$?
 a) 20° b) 40° c) 55° d) 110°
20. If O is the orthocentre of a triangle ABC and $\angle BOC = 100^\circ$, the measure of $\angle BAC$ is
 a) 100° b) 180° c) 80° d) 200°

Circle

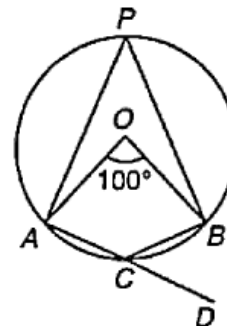
21. In the adjoining figure, O is the centre of circle and diameter $AC = 26$ cm. If chord $AB = 10$ cm, then the distance between chord AB and centre O of the circle is:



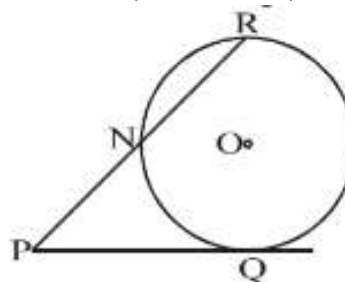
- a) 24 cm b) 16 cm
 c) 12 cm d) none of these
22. In the given figure, O is the centre of circle. $\angle AOB = 80^\circ$ and $\angle AOC = 120^\circ$. Find $m\angle BAC$:



- a) 120° b) 80°
 c) 100° d) none of these
23. In the given figure, O is the centre of circle, $\angle AOB = 100^\circ$. Find $m\angle BCD$:

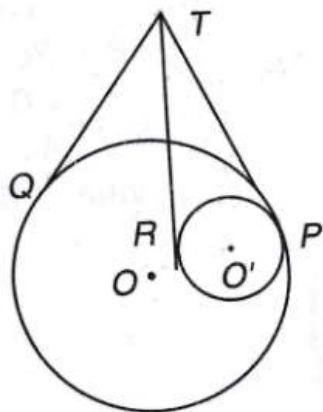


- a) 80° b) 60°
 c) 50° d) 40°
24. In the given figure, PQ is the tangent of the circle. Line segment PR intersects the circle at N and R . $PQ = 15$ cm, $PR = 25$ cm, find PN :



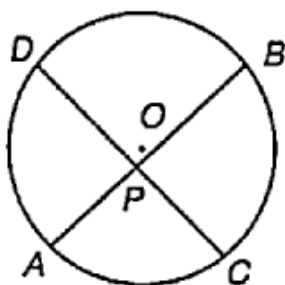
- a) 15 cm b) 10 cm
 c) 9 cm d) 6 cm
25. In the given figure, there are two circles with the centres O and O' touching each other internally at P . Tangents TQ and TP are drawn to the larger

circle and tangents TP and TR are drawn to the smaller circle. Find TQ : TR:



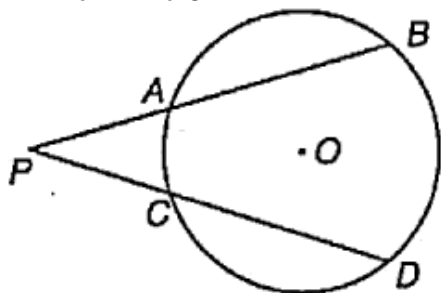
- a) 8 : 7 b) 7 : 8
c) 5 : 4 d) 1 : 1

26. In the given figure, AP = 2 cm, BP = 6 cm and CP = 3 cm. Find DP:



- a) 6 cm b) 4 cm
c) 2 cm d) 3 cm

27. In the given figure, AP = 3 cm, BA = 5 cm and CP = 2 cm. Find CD:



- a) 12 cm b) 10 cm
c) 9 cm d) 6 cm

Quadrilateral & Polygons

28. □ ABCD is a parallelogram. $m \angle DAB = 30^\circ$, BC = 20 cm and AB = 20 cm. Find the area of parallelogram:

- a) 150 cm^2 b) 200 cm^2
c) 400 cm^2 d) 260 cm^2

29. The length of a side of a rhombus is 10 m and one of its diagonal is 12 m. The length of the other diagonal is

- a) 15 m b) 18 m c) 16 m d) CBD

30. □ ABCD is a parallelogram, AB = 14 cm, BC = 18 cm and AC = 16 cm. Find the length of the other diagonal:

- a) 24 cm b) 28 cm c) 36 cm d) 32 cm

31. Each interior angle of a regular polygon is 140° . The number of sides is :

- a) 10 b) 8 c) 6 d) 9

32. If one of the interior angles of a regular polygon is equal to $\frac{5}{6}$ times of one of the interior angles of a regular pentagon, then the number of sides of the polygon is :

- a) 3 b) 4 c) 6 d) 8

33. The sum of the interior angles of a polygon is 1260° . The number of sides of the polygon is :

- a) 6 b) 7 c) 8 d) 9

34. If each interior angle of a regular polygon is 3 times its exterior angle, the number of sides of the polygon is :

- a) 4 b) 5 c) 6 d) 8

35. A polygon has 54 diagonals. The number of sides in the polygon is :

- a) 7 b) 9 c) 12 d) none