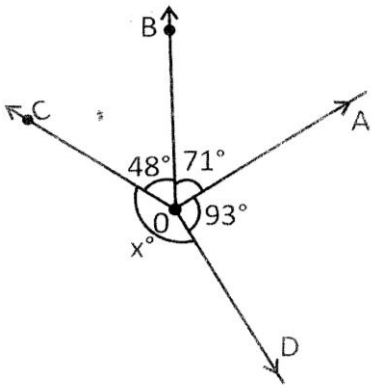
Geometry

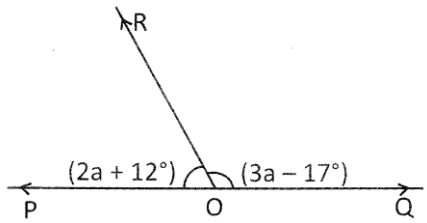
QUESTIONS

1. In the following figure, rays OA, OB, OC and OD are such that $\angle AOB = 71°$, $\angle BOC = 48°$, $\angle COD = X°$ and $\angle DOA = 93°$. What will be the value of $x°$.



(a) 136°
(b) 144°
(c) 148°
(d) 138°
(e) None of these

2. In the shown figure, POQ. Is a straight line.

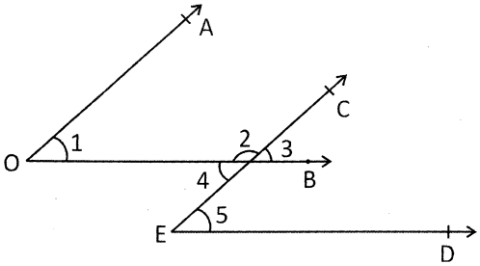


Based on above information, choose the one which is correct?

(a) $a = 38°$
(b) $\angle ROQ = 96°$
(c) $\angle POR = 84°$
(d) $\angle ROP - \angle ROQ = 12°$
(e) None of these

3. In the given figure, it is given that OA$\|\|$EC and OB$\|\|$ED.

Based on above information, choose the one which is incorrect?

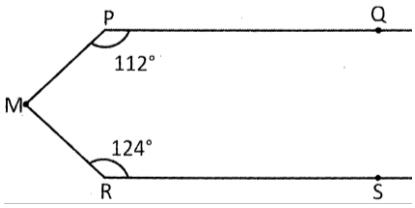


(a) $\angle 1 = \angle 5$ (b) $\angle 1 = \angle 3$

(c) $\angle 1 + \angle 2 = 180°$ (d) $\angle 2 = \angle 5$

(e) None of these

4. In the given figure, it is given that $PQ \| RS$, $\angle QPM = 112°$ and $\angle MRS = 124°$. Find the value of $\angle PMR$.

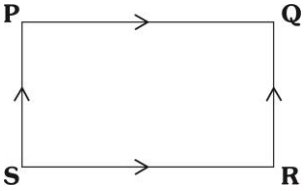


(a) 112° (b) 124°

(c) 120° (d) 128°

(e) None of these

5. In the given figure PQRS is a quadrilateral such that $PQ \| RS$ and $SP \| RQ$. If $\angle QPS = 88°$, then find the value of $\angle SRQ$

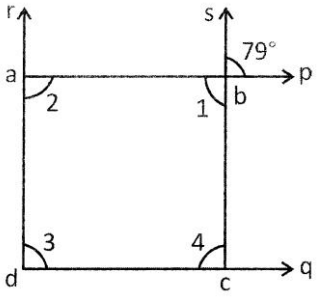


(a) 92° (b) 80°

(c) 68° (d) 88°

(e) None of these

6. In the given figure, $p \| q$ and $r \| s$ and $\angle sbp = 79°$. Based on this information, which one among the following statements is correct?



(a) $\angle 2 = 102°$ (b) $\angle 3 = 79°$

(c) $\angle 4 = 100°$ (d) All the above

(e) None of these

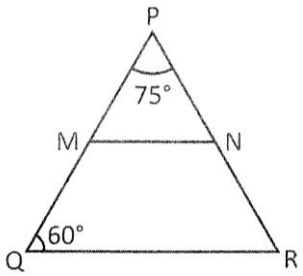
7. **In a ΔPQR, if $2\angle P = 18\ \angle Q = 9\ \angle R$, then _____.**

(a) $\angle P + \angle Q = 150°$ (b) $\angle P - \angle Q - 130^0$

(c) $\angle R - \angle Q = 20°$ (d) All the above

(e) None of these

8. **In the given figure, if $MN \parallel QR$ and $\angle P = 75°$, $\angle Q = 60°$, _____**



(a) $\angle PMN = 75°$ (b) $\angle NMQ = 125°$

(c) $\angle PRQ = 55°$ (d) $\angle MNR = 135°$

(e) None of these

9. **On producing a side of a triangle, the exterior angle so formed is $128°$. If the interior opposite angles are in the ratio 1: 3, then find the measure of the difference of greatest angle and the least angle of the triangle.**

(a) 35° (b) 58°

(c) 23° (d) 28°

(e) None of these

10. **If the sides of a triangle are produced in order, then the sum of exterior angles so formed will be _____.**

(a) 180° (b) 270°

(c) 360° (d) 150°

(e) None of these

11. **Which among the following is not a Pythagorean triplets?**

(a) (5, 12, 13) (b) (7, 24, 25)

(c) (12, 35, 37) (d) (13, 12, 17)

(e) None of these

12. A 3.7 m long ladder is placed against a wall such that the foot of the ladder is 3.5m away from the wall. Find the height upto which the ladder reach the wall?

(a) 1.6 m (b) 1.8 m

(c) 1.2 m (d) 3.2 m

(e) None of these

13. Two poles of height 18 m and 39 m stand upright on a plane ground. If the distance between their feet is 28 m. Find the distance between their tops.

(a) 35 m (b) 37 m

(c) 31 m (d) 39 m

(e) None of these

14. A man goes 40 m due east and then x m due north. If the is at a distance of 41m from his position, then find the value of x.

(a) 6 m (b) 8 m

(c) 9 m (d) 12 m

(e) None of these

15. Which one among the following statements is incorrect?

(a) Two triangles are said to be congruent if pairs of corresponding sides and the corresponding angles are equal

(b) Areas of two congruent figures are equal and if two figures have same area, they will be congruent.

(c) The bisector of the vertical angle of an isosceles triangle bisects the base at right angles.

(d) Two rectangles are congruent if they have same dimensions.

(e) None of these

16. Which one among the following is incorrect pair of the angle and its complement?

(a) $67^\circ \Leftrightarrow 23^\circ$ (b) $45^\circ \Leftrightarrow 45^\circ$

(c) $34^\circ \Leftrightarrow 46^\circ$ (d) $42^\circ \Leftrightarrow 48^\circ$

(e) None of these

17. Which among the following is the angle which is triple of its supplement?

(a) 135° (b) 120°

(c) 150° (d) 110°

(e) None of these

18. Which one among the following statements is true?

(a) A triangle cannot have more than one right angle.

(b) A triangle cannot have more than one obtuse angle.

(c) A triangle cannot have all the angles less than or greater than 60°.

(d) All the above

(e) None of these

19. One of the acute of a right triangle is 75°. Find the other acute angle.

(a) 25° (b) 35°

(c) 45° (d) 15°

(e) None of these

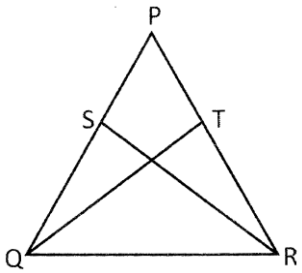
20. Which one among the following cannot be the length of sides of a right triangle?

(a) 15 cm, 20 cm, 25 cm (b) 25 cm, 65 cm, 60 cm

(c) 16 cm, 30 cm, 24 cm (d) 27 cm, 45 cm, 36 cm

(e) None of these

21. In the shown figure, S and T are two points on equal sides PQ and PR of an isosceles triangle PQR such that PS = PT. If RS = 16 cm then QT = _____.



(a) 8 cm (b) 12 cm

(c) 16 cm (d) 20 cm

(e) None of these

22. In a triangle the sides (in cm) are integers and the longest side is 3cm. Find the perimeter of the triangle considering that the triangle is not an equilateral triangle.

(a) 6 cm (b) 7 cm

(c) 8 cm (d) 9 cm

(e) None of these

23. Which one of the following angles cannot be an interior angle of any convex polygon?

(a) 90° (b) 178°

(c) 1° (d) 182°

(e) None of these

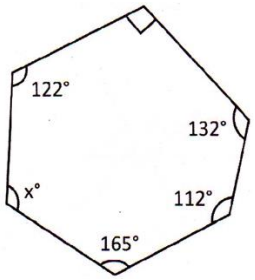
24. Find the number of sides of the regular polygon whose each interior angle is $128\frac{4}{7}$ _____?

(a) 9 (b) 12

(c) 7 (d) 11

(e) None of these

25. In the following figure, a hexagon is shown. Find the value of x.



(a) 100° (b) 89°

(c) 99° (d) 81°

(e) None of these

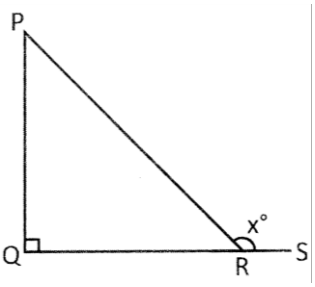
26. The angles (in order) of a quadrilateral are in the ratio 3: 4: 5: 6. The quadrilateral is a _____.

(a) parallelogram (b) trapezium

(c) kite (d) rhombus

(e) None of these

27. In the given figure, PQR is an isosceles right triangle. Find the value of $x°$.



(a) 75° (b) 125°

(c) 135° (d) 145°

(e) None of these

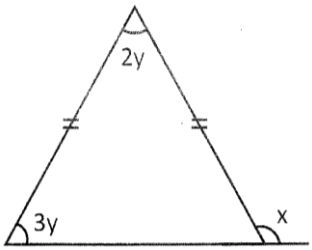
28. **In a regular polygon of n sides (where n < 10). How many such polygons are possible if each of its interior angles is obtuse angle?**

(a) 4 (b) 5

(c) 7 (d) 6

(e) None of these

29. **In the figure shown, BC is produced to D. Find the value of $x + y$.**



(a) $135°$ (b) $140°$

(c) $145°$ (d) $130°$

(e) None of these

30. **The measure of angle P and thrice its supplement differ by $20°$, then $\angle P$ can be _____.**

(a) $100°$ (b) $120°$

(c) $140°$ (d) $130°$

(e) None of these

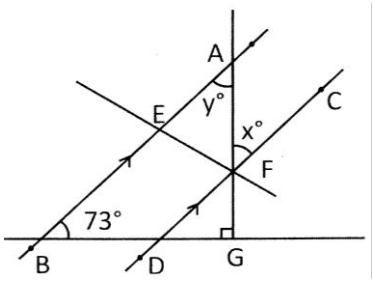
31. **Which one among the following cannot be the sides of a triangle?**

(a) 5 cm, 7 cm, 9 cm (b) 6 cm, 5 cm, 2 cm

(c) 5 cm, 8 cm, 3 cm (d) 7 cm, 10 cm, 4 cm

(e) None of these

32. **In the shown figure, $AB \parallel CD$ and $\angle BGF = 90°$. If $\angle EBG = 73°$, then find the value of $(x + y)°$.**



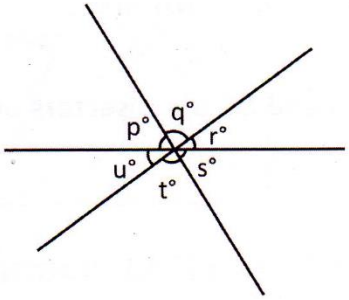
(a) $42°$ (b) $34°$

(c) $46°$ (d) $36°$

(e) None of these

33. In the shown figure, three lines are intersecting at a point.

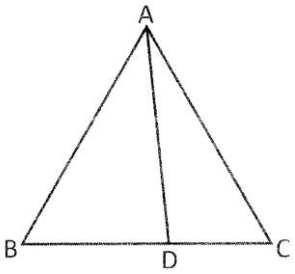
If $r = 25°$ and $t° = 76°$, then find the value of P.



(a) 79°
(b) 89°
(c) 76°
(d) 58°
(e) None of these

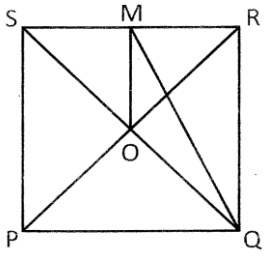
34. In the shown figure, $\angle BAD = 2\angle DAC$ $\angle B = \angle C + 48°$ and $\angle ADC = 132°$.

Find $\angle BAC$.



(a) 99°
(b) 120°
(c) 108°
(d) 126°
(e) None of these

35. In the shown figure, PQRS is a square of side 12 cm, and OM $\perp$ SR. Find the length of MQ.

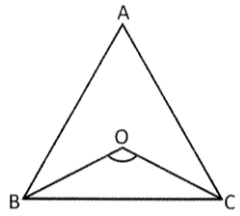


(a) $4\sqrt{5}\,cm$
(b) $6\sqrt{5}\,cm$
(c) $3\sqrt{2}\,cm$
(d) $6\sqrt{2}\,cm$
(e) None of these

36. **In $\triangle$ MNT and $\triangle$ PQR, $\angle$ N = $\angle$ Q = 90°, MM = PQ and NT = QR Which of the following property can be used to prove congruence of $\triangle$ MNT and $\triangle$ PQR?**

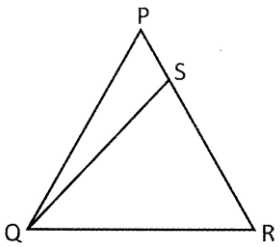
(a) ASA
(b) SSS
(c) SAS
(d) RHS
(e) None of these

37. **In the figure shown below $2\angle A = \angle BOC$. OB and OC are bisector of $\angle B$ and $\angle C$ respectively. Find $\angle A$.**



(a) 50°
(b) 75°
(c) 60°
(d) 45°
(e) None of these

38. **In the figure shown, if $\angle RQS = \angle PQS$, $\angle P = \angle R + 32°$ and $\angle QSP = 88°$, then find $\angle PQR$.**



(a) 36°
(b) 42°
(c) 48°
(d) 49°
(e) None of these

39. **How many diagonals are there in a 60 sided convex plane?**

(a) 1580
(b) 1710
(c) 1810
(d) 1680
(e) None of these

40. **If 10, 14 and m are sides of an acute angled triangle, then how many integer values of m are possible?**

(a) 5
(b) 6
(c) 7
(d) 8
(e) None of these

ANSWER - KEY				
1. (C)	**2.** (D)	**3.** (D)	**4.** (B)	**5.** (D)
6. (B)	**7.** (A)	**8.** (D)	**9.** (B)	**10.** (C)
11. (D)	**12.** (C)	**13.** (A)	**14.** (C)	**15.** (B)
16. (C)	**17.** (A)	**18.** (D)	**19.** (D)	**20.** (C)
21. (C)	**22.** (B)	**23.** (D)	**24.** (C)	**25.** (C)
26. (B)	**27.** (C)	**28.** (B)	**29.** (A)	**30.** (C)
31. (C)	**32.** (B)	**33.** (A)	**34.** (C)	**35.** (B)
36. (C)	**37.** (C)	**38.** (B)	**39.** (B)	**40.** (D)