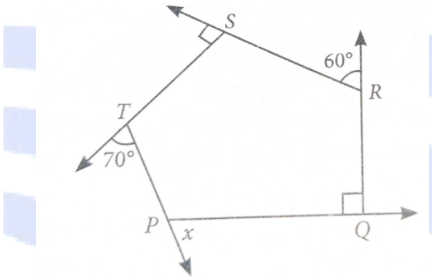
1. Name the polygon with 9 sides.
   (a) Heptagon (b) Nonagon (c) Decagon (d) Octagon
2. Which among the following is a regular quadrilateral?
   (a) Rhombus (b) Rectangle (c) Square (d) Both (a) and (c)
3. Number of diagonals of a regular decagon is
   (a) 30 (b) 35 (c) 25 (d) 20
4. The number of sides of a polygon which has 170 diagonals is
   (a) 20 (b) 15 (c) 18 (d) 17
5. The angles of a quadrilateral in ratio of 1 : 3 : 4 : 7. Then, difference between largest and smallest angle is
   (a) 144° (b) 168° (c) 192° (d) 120°
6. Number of sides of a regular polygon whose each interior angle is 156°, is
   (a) 12 (b) 13 (c) 14 (d) 15
7. Sum of all the interior angles of a decagon is
   (a) 1080° (b) 1440° (c) 1260° (d) 1800°
8. For which of the following regular polygons, the measure of each interior angle is an integral value?
   (a) Heptagon (b) 11-sided polygon (c) 24-sided polygon (d) None of these
9. The measure of each interior angle of a regular polygon with least prime number of diagonals is
   (a) 60° (b) 90° (c) 75° (d) 108°
10. Find the measure of x in the following figure.

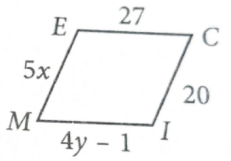


   (a) 150° (b) 50° (c) 70° (d) 120°
11. Which of the following values can be an exterior angle and number of sides of the same regular polygon?
   (a) 72°, 5 sides (b) 45°, 6 sides (c) 40°, 8 sides (d) 24°, 18 sides
12. The ratio between interior and exterior angles of which of the following regular polygons is 3 : 1?
   (a) Octagon (b) Hexagon (c) Nonagon (d) Pentagon
13. If the measure of adjacent angles of a parallelogram is the ratio 11 : 4, then the measure of smallest angle is
   (a) 132° (b) 48° (c) 36° (d) 148°
14. Which of the following is not a property of a trapezium?
   (a) Diagonals bisect each other.
   (b) Diagonals are perpendicular to each other.
   (c) Any pair of adjacent angles are supplementary.
   (d) All of these

15. If the adjacent angles of a parallelogram are $(3x+21°)$ and $(5x-41°)$, then the measure of smallest angle is

(a) 96° (b) 84° (c) 81° (d) 99°

16. In the parallelogram 'MICE' find the value of x + y.

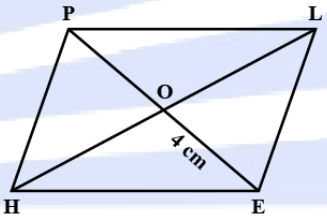


(a) 9 (b) 10 (c) 11 (d) 12

17. If in an isosceles trapezium measure of one of the non-parallel sides is 6 cm, then the measure of other non-parallel side is

(a) 10 cm (b) 5 cm (c) 6 cm (d) 4 cm

18. In the given figure, HELP is a parallelogram. If OE = 4 cm and HL is 5 cm more than PE, then find OH.

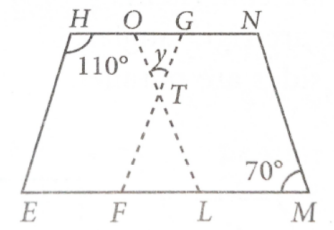


(a) 6.5 cm (b) 8 cm (c) 5.6 cm (d) 12.5 cm

19. If in a parallelogram, its equal diagonals make an angle of 65° at their point of intersection, then angle at each of its vertices is

(a) 115° (b) 90° (c) 75° (d) 120°

20. In the given figure, both EFGH and LMNO are parallelograms. Find the value of y.



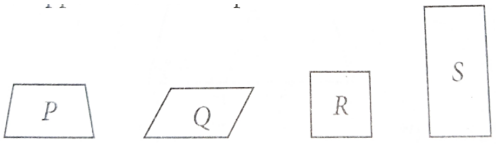
(a) 110° (b) 70° (c) 40° (d) 50°

21. For which of the following figures, all angles are equal?

(a) Rectangle (b) Kite (c) Trapezium (d) Rhombus

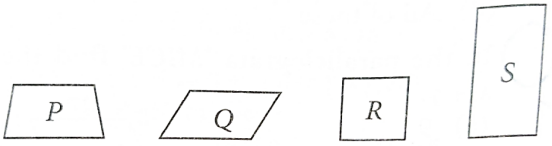
22. Which of the following figures satisfy the following properties:

- All sides are congruent.
- All angles are right angles.
- Opposite sides are parallel.



(a) P (b) Q (c) R (d) S

23. Which of the following figures satisfy the following property?
- Only one pair of sides are parallel



(a) P (b) Q (c) R (d) S

24. Which of the following is a property of parallelogram?
(a) Opposite sides are parallel.
(b) The diagonals bisect each other at right angles.
(c) The diagonals are perpendicular to each other.
(d) All angles are equal

25. How many non-overlapping triangles can we make I a n-gon (polygon having n sides) by joining the vertices?
(a) n – 1 (b) n – 2 (c) n – 3 (d) n – 4

26. If two adjacent angles of a parallelogram are (5x – 5)° and (10x + 35)°, then the ratio of these angles is
(a) 1 : 3 (b) 2 : 3 (c) 1 : 4 (d) 1 : 2

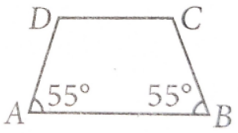
27. A quadrilateral whose opposite sides and all the angles are equal is a
(a) rectangle (b) parallelogram (c) square (d) rhombus

28. How many diagonals does a hexagon have?
(a) 9 (b) 8 (c) 2 (d) 6

29. If the diagonals of a quadrilateral are equal and bisect each other, then the quadrilateral is a
(a) rhombus (b) rectangle (c) square (d) parallelogram

30. Which of the following is an equiangular ad equilateral polygon?
(a) Square (b) Rectangle (c) Rhombus (d) Right triangle

31. In the trapezium ABCD, the measure of ∠D is

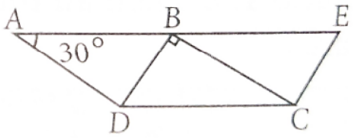


(a) 55° (b) 115° (c) 135° (d) 125°

32. The number of sides of a regular polygon where each exterior angle has a measure of 45° is
(a) 8 (b) 10 (c) 4 (d) 6

33. The sum of adjacent angles of a parallelogram is
(a) 180° (b) 120° (c) 36° (d) 90°

34. In the given figure, ABCD and BDCE are parallelogram with common base DC. If BC ⊥ BD, then ∠BEC =



(a) 60° (b) 30° (c) 150° (d) 120°

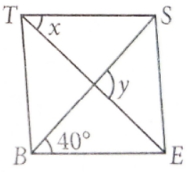
35. If the adjacent angles of a parallelogram are equal, then the parallelogram is a

(a) rectangle (b) trapezium (c) rhombus (d) ay of the three

36. The sum of angles of a concave quadrilateral is

(a) more than 360° (b) less than 360° (c) equal to 360° (d) twice of 360°

37. In the figure, BEST is a rhombus, then the value of y – x is



(a) 40° (b) 50° (c) 20° (d) 10°

38. Which of the following is not true for an exterior angle of a regular polygon with n sides?

(a) Each exterior angle = $\frac{360^\circ}{n}$ (b) Exterior angle = 180° – interior angle

(c) $n = \frac{360^\circ}{\text{exterior angle}}$ (d) Each exterior angle $= \frac{(n-2)\times 180^\circ}{n}$

39. PQRS is a square. PR and SQ intersect at O. Then ∠POQ is a

(a) Right angle (b) Straight angle (c) Reflex angle (d) Complete angle

40. The angles P, Q, R and S of a quadrilateral are the ratio 1 : 3 : 7 : 9. Then PQRS is a

(a) parallelogram (b) trapezium with PQ || RS

(c) trapezium with QR || PS (d) kite

41. The number of sides of a regular polygon whose each interior angle is of 135° is

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

42. If a diagonal of a quadrilateral bisects both the angles, the it is a

(a) kite (b) parallelogram (c) rhombus (d) rectangle

In the following questions, a statement of assertion (Statement I) is followed by statement of reason (Statement II). Mark the correct choice as:

Codes:

(a) If both Statement I and Statement II are true and Statement II is the correct explanation of Statement I.

(b) If both Statement I and Statement II are true but Statement II is not the correct explanation of Statement I.

(c) If Statement I is true but Statement II is false.

(d) If Statement I is false but Statement II is true.

43. Statement I: If the three angles of the quadrilateral are respectively 115°, 55° and 35°, then the fourth angle is equal to 125°.

Statement II: Sum of the angle of a quadrilateral is 360°.

44. Statement I: Sum of angles in a kite is 360°.

Statement II: Sum of interior angles of a polygon of n sides in (n – 2) × 180°.

45. Statement I: One of the diagonals of a rhombus is equal to one of its sides, then the angles of the rhombus are 60°, 120°, 60° and 120° respectively.

Statement II: In a parallelogram adjacent angles are supplementary.

46. Statement I: If the diagonals of a rectangle bisect each other perpendicular then it is a square.

Statement II: I a square, diagonals bisect each other perpendicularly.

47. Statement I: Every rhombus is a square.

Statement II: Every rhombus is a parallelogram.

ANSWERS

1. (b)	2. (c)	3. (b)	4. (a)
5. (a)	6. (d)	7. (b)	8. (c)
9. (b)	10. (b)	11. (a)	12. (a)
13. (b)	14. (d)	15. (b)	16. (c)

17. (c)
18. (a)
19. (b)
20. (c)
21. (a)
22. (c)
23. (a)
24. (a)
25. (b)
26. (a)
27. (a)
28. (a)
29. (b)
30. (a)
31. (d)
32. (a)
33. (a)
34. (a)
35. (a)
36. (c)
37. (a)
38. (d)
39. (a)
40. (b)
41. (c)
42. (c)
43. (d)
44. (a)
45. (a)
46. (a)
47. (d)