Sample Paper · Class 9

Questions	Marks each	Total marks	Time	Answers on
50	**2**	**100**	**1 hour**	**OMR sheet**

Instructions

1. This paper has **50 multiple-choice questions**. Each has four options, and only one is correct.
2. Each question carries **2 marks**. The paper is out of **100 marks**.
3. Time allowed: **1 hour**.
4. In the real exam, mark your answers on the **OMR sheet**. A practice OMR sheet is included before the answer key.
5. Score **70% or more** in Round 1 to qualify for Round 2 (national level).

Name _____ Class 9 Score _____ / 100

School _____

Questions

1. What is the remainder when $x^3 - 2x^2 + 4x - 1$ is divided by $(x - 2)$?

(A) 7 **(B)** 9
(C) −7 **(D)** 4

2. What is the distance of the point (7, 8) from the x-axis?

(A) 9 units **(B)** 7 units
(C) 8 units **(D)** 15 units

3. Which point lies on the line $x + 2y = 6$?

(A) (1, 4) **(B)** (4, 2)
(C) (4, 1) **(D)** (5, 2)

4. What is the value of 8^(2/3)?

(A) 4 **(B)** 8
(C) 5 **(D)** 2

5. In which quadrant does the point (7, 8) lie?

(A) Quadrant IV **(B)** Quadrant III
(C) Quadrant II **(D)** Quadrant I

6. What is the volume of a sphere of radius 21 cm? (Take $\pi = 22/7$)

(A) 38,808 cubic cm **(B)** 29,106 cubic cm
(C) 12,936 cubic cm **(D)** 39,424 cubic cm

7. The angles of a triangle are in the ratio 3 : 4 : 5. What is the largest angle?

(A) 75° **(B)** 50°
(C) 60° **(D)** 85°

8. What is the median of 49, 38, 35, 18, 21, 41, 58?

(A) 38 **(B)** 41
(C) 37 **(D)** 18

9. Two parallel lines are cut by a transversal. One of the co-interior angles is 44°. What is the other?

(A) 44° **(B)** 136°
(C) 46° **(D)** 316°

10. $\sqrt{18} \times \sqrt{2} = ?$

(A) 18 **(B)** $\sqrt{20}$
(C) 6 **(D)** 36

11. If $p(x) = 4x^2 - 4x + 3$, what is $p(-2)$?

(A) 22 **(B)** 30
(C) 26 **(D)** 27

12. Factorise: $x^2 + 5x + 6$

(A) $(x + 6)(x + 1)$ **(B)** $(x + 2)(x + 3)$
(C) $(x + 5)(x + 1)$ **(D)** $(x - 2)(x + 3)$

13. What is the curved surface area of a cylinder with radius 7 cm and height 15 cm? (Take $\pi = 22/7$)

(A) 968 sq cm **(B)** 330 sq cm
(C) 660 sq cm **(D)** 2310 sq cm

14. What is the degree of the polynomial $4x^5 + x - 9$?

(A) 6 **(B)** 7
(C) 5 **(D)** 3

15. Rationalising the denominator, $1/\sqrt{2}$ equals:

(A) $\sqrt{2}/2$ **(B)** $\sqrt{2}$
(C) $1/2$ **(D)** $2/\sqrt{2}$

16. $\sqrt{12} \times \sqrt{3} = ?$

(A) 6 **(B)** $\sqrt{15}$
(C) 18 **(D)** 36

17. Factorise: $x^2 + 7x + 12$

(A) $(x - 3)(x + 4)$ **(B)** $(x + 7)(x + 1)$
(C) $(x + 12)(x + 1)$ **(D)** $(x + 3)(x + 4)$

18. Two parallel lines are cut by a transversal. One of the co-interior angles is 40°. What is the other?

(A) 320° **(B)** 40°
(C) 50° **(D)** 140°

19. What is the distance of the point (8, −9) from the x-axis?

(A) 10 units **(B)** 9 units
(C) 8 units **(D)** 17 units

20. Which point lies on the line 3x + 2y = 20?

(A) (6, 2) **(B)** (6, 1)
(C) (1, 6) **(D)** (7, 2)

21. The angles of a triangle are in the ratio 1 : 3 : 5. What is the largest angle?

(A) 50° **(B)** 60°
(C) 110° **(D)** 100°

22. What is the value of 16^(3/4)?

(A) 4 **(B)** 12
(C) 9 **(D)** 8

23. If $p(x) = 4x^2 - 2x + 1$, what is $p(-3)$?

(A) 43 **(B)** 39
(C) 42 **(D)** 41

24. What is the volume of a sphere of radius 10.5 cm? (Take $\pi = 22/7$)

(A) 4,851 cubic cm **(B)** 1,617 cubic cm
(C) 3,638 cubic cm **(D)** 5,467 cubic cm

25. What is the degree of the polynomial $x^4 - 2x + 1$?

(A) 6 **(B)** 5
(C) 4 **(D)** 3

26. In which quadrant does the point (8, −9) lie?

(A) Quadrant III **(B)** Quadrant I
(C) Quadrant IV **(D)** Quadrant II

27. What is the remainder when $x^3 - 2x^2 + 4x + 3$ is divided by $(x - 1)$?

(A) −6 **(B)** 6
(C) 8 **(D)** 3

28. Two parallel lines are cut by a transversal. One of the co-interior angles is 68°. What is the other?

(A) 68° **(B)** 22°
(C) 112° **(D)** 292°

29. If $p(x) = 2x^2 - 2x + 6$, what is $p(0)$?

(A) 4 **(B)** 5
(C) 6 **(D)** 10

30. In which quadrant does the point (−4, 8) lie?

(A) Quadrant IV **(B)** Quadrant III
(C) Quadrant I **(D)** Quadrant II

31. What is the value of 32^(2/5)?

(A) 2 **(B)** 4
(C) 5 **(D)** 8

32. What is the distance of the point (−4, 8) from the x-axis?

(A) 4 units **(B)** 9 units
(C) 8 units **(D)** 12 units

33. What is the median of 50, 52, 54, 57, 31, 26, 25?

(A) 50 **(B)** 52
(C) 57 **(D)** 42

34. What is the remainder when $x^3 - 3x^2 - 3x + 8$ is divided by $(x - 2)$?

(A) 2 **(B)** −2
(C) −5 **(D)** 0

35. Which point lies on the line $2x + y = 7$?

(A) (3, 1) **(B)** (1, 3)
(C) (3, 2) **(D)** (4, 2)

36. The angles of a triangle are in the ratio 1 : 2 : 3. What is the largest angle?

(A) 90° **(B)** 100°
(C) 60° **(D)** 30°

37. What is the curved surface area of a cylinder with radius 7 cm and height 20 cm? (Take π = 22/7)

(A) 1188 sq cm **(B)** 440 sq cm
(C) 3080 sq cm **(D)** 880 sq cm

38. In which quadrant does the point (5, −4) lie?

(A) Quadrant IV **(B)** Quadrant I
(C) Quadrant II **(D)** Quadrant III

39. Two parallel lines are cut by a transversal. One of the co-interior angles is 48°. What is the other?

(A) 132° **(B)** 312°
(C) 48° **(D)** 42°

40. If $p(x) = 4x^2 - 2x + 5$, what is $p(0)$?

(A) 5 **(B)** 1
(C) 10 **(D)** 7

41. What is the remainder when $x^3 - 2x^2 + 3x + 4$ is divided by $(x - 3)$?

(A) 19 **(B)** 22
(C) −22 **(D)** 24

42. $\sqrt{50} \times \sqrt{2} = ?$

(A) 10 **(B)** 50
(C) 100 **(D)** $\sqrt{52}$

43. What is the median of 50, 33, 53, 20, 45, 10, 11?

(A) 20 **(B)** 33
(C) 31 **(D)** 45

44. Which point lies on the line $3x + 2y = 8$?

(A) (2, 2) **(B)** (1, 2)
(C) (2, 1) **(D)** (3, 2)

45. What is the remainder when $x^3 - 5x^2 + 4x - 9$ is divided by $(x - 4)$?

(A) -9 **(B)** -7
(C) 9 **(D)** -12

46. What is the median of 21, 38, 28, 30, 47, 35, 22?

(A) 28 **(B)** 31
(C) 30 **(D)** 35

47. In which quadrant does the point $(-4, -6)$ lie?

(A) Quadrant IV **(B)** Quadrant II
(C) Quadrant III **(D)** Quadrant I

48. Which point lies on the line $3x + 2y = 12$?

(A) (2, 3) **(B)** (3, 4)
(C) (3, 2) **(D)** (2, 4)

49. Using Heron’s formula, what is the area of a triangle with sides 7 cm, 24 cm and 25 cm?

(A) 56 sq cm **(B)** 90 sq cm
(C) 168 sq cm **(D)** 84 sq cm

50. The angles of a triangle are in the ratio 2 : 3 : 4. What is the largest angle?

(A) 80° **(B)** 40°
(C) 60° **(D)** 90°

Practice OMR sheet

Fill one circle for each question, using a dark pen. Practising this now saves time in the real exam.

1	○ A	○ B	○ C	○ D
2	○ A	○ B	○ C	○ D
3	○ A	○ B	○ C	○ D
4	○ A	○ B	○ C	○ D
5	○ A	○ B	○ C	○ D
6	○ A	○ B	○ C	○ D
7	○ A	○ B	○ C	○ D
8	○ A	○ B	○ C	○ D
9	○ A	○ B	○ C	○ D
10	○ A	○ B	○ C	○ D
11	○ A	○ B	○ C	○ D
12	○ A	○ B	○ C	○ D
13	○ A	○ B	○ C	○ D
14	○ A	○ B	○ C	○ D
15	○ A	○ B	○ C	○ D
16	○ A	○ B	○ C	○ D
17	○ A	○ B	○ C	○ D
18	○ A	○ B	○ C	○ D
19	○ A	○ B	○ C	○ D
20	○ A	○ B	○ C	○ D
21	○ A	○ B	○ C	○ D
22	○ A	○ B	○ C	○ D
23	○ A	○ B	○ C	○ D
24	○ A	○ B	○ C	○ D
25	○ A	○ B	○ C	○ D

26	○ A	○ B	○ C	○ D
27	○ A	○ B	○ C	○ D
28	○ A	○ B	○ C	○ D
29	○ A	○ B	○ C	○ D
30	○ A	○ B	○ C	○ D
31	○ A	○ B	○ C	○ D
32	○ A	○ B	○ C	○ D
33	○ A	○ B	○ C	○ D
34	○ A	○ B	○ C	○ D
35	○ A	○ B	○ C	○ D
36	○ A	○ B	○ C	○ D
37	○ A	○ B	○ C	○ D
38	○ A	○ B	○ C	○ D
39	○ A	○ B	○ C	○ D
40	○ A	○ B	○ C	○ D
41	○ A	○ B	○ C	○ D
42	○ A	○ B	○ C	○ D
43	○ A	○ B	○ C	○ D
44	○ A	○ B	○ C	○ D
45	○ A	○ B	○ C	○ D
46	○ A	○ B	○ C	○ D
47	○ A	○ B	○ C	○ D
48	○ A	○ B	○ C	○ D
49	○ A	○ B	○ C	○ D
50	○ A	○ B	○ C	○ D

Answer key

Check your answers. Your score = number of correct answers × 2 marks.

1	2	3	4	5	6	7	8	9	10
A	**C**	**C**	**A**	**D**	**A**	**A**	**A**	**B**	**C**
11	12	13	14	15	16	17	18	19	20
D	**B**	**C**	**C**	**A**	**A**	**D**	**D**	**B**	**B**
21	22	23	24	25	26	27	28	29	30
D	**D**	**A**	**A**	**C**	**C**	**B**	**C**	**C**	**D**
31	32	33	34	35	36	37	38	39	40
B	**C**	**A**	**B**	**A**	**A**	**D**	**A**	**A**	**A**
41	42	43	44	45	46	47	48	49	50
B	**A**	**B**	**C**	**A**	**C**	**C**	**A**	**D**	**A**

Want more practice? Registered students also get mock tests, and free weekend quizzes are open to everyone at mathsolympiad.net/wc.