ANGEL'S PUBLIC SCHOOL

Strive for Perfection

SAMPLE PAPER

HALF YEARLY EXAM   SESSION 2025 – 26

CLASS – VIII

TIME: 3 HRS   **SUBJECT : MATHEMATICS**   **M.M:80**

General Instructions

(a) **Question paper is divided into 4 sections A,B,C and D.**

(b) **Section – A comprises 10 questions of 1 mark each.**

(c) **Section – B comprises 10 questions of 2 marks each.**

(d) **Section – C comprises 6 questions of 4 marks each. Attempt any 5.**

(e) **Section – D comprises 8 questions of 5 marks each. Attempt any 6.**

SECTION – A

1. Which of the following is a perfect square ?

   (a) 32   (b) 36   (c) 38   (d) 42

2. The square root of 144 is

   (i)10   (ii)12   (iii)14   (iv)16

3. How many natural numbers lies between 16^2 and 17^2 ?

   (i) 32   (ii) 33   (iii) 34   (iv) 36

4. Which of the following is a perfect cube

   (i)10000   (ii) 243   (iii) 343   (iv) 270000

5. What is the cube of 2a

   (i) $4a^3$ (ii) $2a^3$ (iii) $16a^3$ (iv) $8a^3$

6. What is the cube root of 13824 ?

   (i) 22   (ii) 24   (iii) 26   (iv) 28

7. What is the simplified form of (3x + 2y) + (5x – y)

   (i) 8x+y   (ii) 2x + 3y   (iii) 8x + 3y   (iv)$15x^2 – 2y^2$

8. Which of the following is an example of a binomial?

   (i) 7 X^2 (ii) 2x + 5   (iii) $3x^2$ +2x +1   (iv) 5

9. The reciprocal of 0 is :

   (i) 0   (ii) 1   (iii) –1   (iv) not defined

10. If $\frac{3x}{2} = 9$ then x is equal to:

    (i) 3   (ii) 6   (iii) 9   (iv) 12

SECTION – B

11. Solve $\frac{-3}{8} + \left(\frac{-4}{5}\right)$

12. Solve $7z + 8 = 4(z - 6)$

13. Which of $123^2, 77^2, 82^2, 161^2, 109^2$ would end with digit 1 ?

14. Find the square of 93

15. Using prime factorization method, find 9075 is a perfect square.

16. Evaluate $(21)^3$

17. If the side of a cube is 31cm. find its volume.

18. Find the cube root of $\frac{1000}{2197}$

19. Add $2ab - 3bc + 5ca$, $11bc - 2ca + 15$ and $-2bc + 9ab + 10ca$

20. Find the product of $6x$ and $-8x$

SECTION – C (ATTEMPT ANY FIVE)

21. Simplify $7y(y^2 + 2y + 3)$ and Evaluate for $y = -1$

22. Find the smallest number by which 1800 is divided to make it a perfect square.

23. Find the smallest number which when multiplied with 3600 will make the product a perfect cube.

24. Solve $\frac{5x+3}{2x+1} = \frac{3}{4}$

25. Simplify $\frac{8}{21} \div \left[\frac{-32}{39} \div \frac{16}{13}\right]$

26. Length of a rectangular plot is $50\frac{1}{2}$ m and width is 20m. What is the area of the plot?

SECTION – D (ATTEMPT ANY SIX)

27. Subtract $5pq(p - q)$ from $2q(3p^2 - 2pq + 11)$

28. Multiply $(a + 7)$ by $(a^2 + 3a + 5)$

29. Find the cube root of 4096 by prime factorization method.

30. Evaluate $\sqrt[3]{96} \times \sqrt[3]{144}$

31. Find the least perfect square which is exactly divisible by each of the following 8, 12, 15 and 20

32. Write the unit's digit of the square of following numbers.

   (a) 46   (b) 22   (c) 163   (d) 75

33. Solve $\frac{2x-7}{4} - \frac{x}{8} = 7$

34. The product of two rational numbers is $\frac{-8}{9}$. If one of the number is $\frac{-4}{15}$, find the other.