

**PRACTICE QUESTIONS SHEET  
FOR MATHS CLASS 10***A Compilation By***O.P. GUPTA**

Math Mentor &amp; Author, INDIRA Award Winner

01. The decimal expansion of  $\frac{13}{1250}$  terminates after
- (a) 2 places                      (b) 3 places                      (c) 4 places                      (d) 5 places
02. The value of  $k$  for which the lines  $3x + y = 3$  and  $6x + ky = 8$  do not have solution, is
- (a) 5                                  (b) 4                                  (c) 3                                  (d) 2
03. A tree of height 20 m breaks at a point 5 m high from the foot of the tree touching the ground at a point, then the distance between the foot of the tree and top of the tree is
- (a)  $2\sqrt{10}$  m                      (b)  $10\sqrt{2}$  m                      (c) 200 m                      (d)  $2\sqrt{100}$  m
04. The lengths of the two diagonals of a rhombus are 16 cm and 14 cm, then the length of each side of the rhombus is
- (a)  $\sqrt{15}$  cm                      (b)  $\sqrt{28}$  cm                      (c)  $\sqrt{113}$  cm                      (d)  $\sqrt{115}$  cm
05. A die is drawn once. What is the probability of getting a prime number?
- (a)  $\frac{1}{2}$                                   (b)  $\frac{2}{3}$                                   (c)  $\frac{4}{5}$                                   (d)  $\frac{5}{6}$
06. If  $P(E) = \frac{1}{3}$ , then  $P(\text{not } E) =$
- (a) 1                                  (b)  $\frac{2}{3}$                                   (c)  $\frac{1}{3}$                                   (d) 0
07. If  $\sec\theta\sin\theta = 0$ , then the value of  $\theta$  is
- (a)  $30^\circ$                                   (b)  $45^\circ$                                   (c)  $90^\circ$                                   (d)  $0^\circ$
08. The smallest natural number by which 300 should be multiplied so that the square root of the product is rational number is
- (a) 3                                  (b) 5                                  (c) 7                                  (d) 11
09. The lines represented by  $4x + 5y = 3$  and  $16x + 20y = 6$  are
- (a) intersecting                      (b) coincident                      (c) parallel                      (d) None of these
10. The coordinates of the point which divides the line segment joining the points  $(-3, 3)$  and  $(3, -3)$  in the ratio 2 : 1 is
- (a)  $(3, -3)$                       (b)  $(2, -2)$                       (c)  $(1, -1)$                       (d)  $(0, 1)$

11. The LCM of the smallest composite number and smallest 2-digit number is  
 (a) 4 (b) 40 (c) 20 (d) 14
12. The LCM of two numbers p and q is 200 and their HCF is 5. Then pq =  
 (a) 5 (b) 2000 (c) 1000 (d) 40
13. If  $5\cot A = 8$ , then the value of  $\sin A \sec A$  is  
 (a)  $\frac{25}{64}$  (b)  $\frac{64}{25}$  (c)  $\frac{5}{8}$  (d)  $\frac{5}{8}$
14. If  $\alpha = 30^\circ$ , then  $3\sin\alpha - 4\sin^3\alpha =$   
 (a) 0 (b) 1 (c) 2 (d) 3
15. The circumference of a circle that can be inscribed in a square of side 14 cm is  
 (a) 154 cm (b) 77 cm (c) 80 cm (d) 44 cm
16. Which of the following represents area of a quadrant, with radius r?  
 (a)  $\frac{\pi r^2}{4}$  (b)  $\frac{\pi r^2}{2}$  (c)  $\frac{\pi r^2}{8}$  (d)  $\pi r^2$
17. The altitude of an equilateral triangle when each of its side is 'a' cm, is  
 (a)  $\frac{\sqrt{2}}{3}a$  cm (b)  $\frac{\sqrt{2}}{3}a^2$  cm (c)  $\frac{\sqrt{3}}{4}a^2$  cm (d)  $\frac{\sqrt{3}}{2}a$  cm
18. The value of  $\sin^2 60^\circ - \frac{1}{\operatorname{cosec}^2 30^\circ}$  is  
 (a)  $\frac{\sqrt{3}-1}{2}$  (b)  $\frac{1}{2}$  (c) 1 (d) 0
19. The pair of linear equations  $22x + 3y = 9$  and  $4x + 6y = 18$  is  
 (a) Consistent and dependent (b) Consistent but not dependent  
 (c) Inconsistent (d) Coincident on each other
20. All the kings are removed from a well-shuffled deck of 52 cards. A card is drawn from the remaining cards. Then probability of getting a red card is  
 (a)  $\frac{11}{25}$  (b)  $\frac{1}{2}$  (c)  $\frac{6}{13}$  (d)  $\frac{5}{12}$
21. Mid-point of a line segment joining (0, 8) and (-6, 4), is  
 (a) (0, 0) (b) (-3, -6) (c) (-3, 6) (d) (6, -3)
22. For the system of equation,  $x + y = 2$ ,  $2x - y = -8$ , we shall have  
 (a)  $x = -2$ ,  $y = 4$  (b)  $x = -2$ ,  $y = -4$  (c)  $x = 2$ ,  $y = -4$  (d)  $x = 2$ ,  $y = 4$
23.  $\sin^4 A - \cos^4 A =$   
 (a)  $2\sin^2 A - 1$  (b)  $2\cos^2 A - 1$  (c)  $1 - 2\sin A$  (d)  $1 - 2\cos A$
24. For which value of k will the pair of linear equations  $3x + y = 1$  and  $3kx + 5y = 2$  have no solution?  
 (a) 2 (b) 3 (c) 5 (d) 7

25. LCM of two prime numbers  $x$  and  $y$  is 187 ( $x > y$ ). Then the value of  $2(x - y)$  is  
(a) 10 (b) 12 (c) 11 (d) 13
26. A die is thrown once. What is the probability of getting a number greater than or equal to 3?  
(a)  $\frac{2}{3}$  (b)  $\frac{1}{2}$  (c)  $\frac{4}{5}$  (d)  $\frac{5}{6}$
27. Two coins are tossed simultaneously. Then the probability of getting both the heads or tails is  
(a)  $\frac{1}{4}$  (b)  $\frac{1}{2}$  (c)  $\frac{3}{4}$  (d) 1
28. The value of  $5 \tan^2 x - 5 \sec^2 x$  is  
(a) 10 (b) 0 (c) 5 (d) -5
29. The distance of the point  $(-4, -3)$  from the origin is  
(a) -7 units (b) 7 units (c) 5 units (d) 6 units
30.  $(\sin^2 30^\circ) : (\cos^2 30^\circ) =$   
(a) 1:3 (b) 3:4 (c) 4:3 (d) 1:1
31. What is the solution of the pair of equations  $2x - y = 6$  and  $x + y = 9$ ?  
(a)  $x = 4, y = 5$  (b)  $x = 5, y = 4$  (c)  $x = 1, y = 2$  (d)  $x = -2, y = 3$
32. The value of  $\frac{1 - \tan^2 45^\circ}{1 + \tan^2 45^\circ}$  is  
(a) 0 (b) 1 (c) 2 (d) 3
33. Prime factorization of  $11 \times 13 + 13$  is  
(a)  $2^2 \times 3 \times 13$  (b)  $2 \times 3^2 \times 13$   
(c)  $2 \times 3 \times 13$  (d)  $2 \times 3 \times 13^2$
34. For  $x + y = 1$  and  $x - y = 3$ , the value of  $(y)^x$  is  
(a) 2 (b) -1 (c) 0 (d) 1
35. The coordinates of a point A which divides the line segment joining the point  $P(4, -3)$  and  $Q(8, 5)$  are  $(7, 3)$ . In what ratio the point A divides the line PQ internally?  
(a) 1:2 (b) 1:3 (c) 3:1 (d) 2:1

36. The area of a quadrant of a circle with radius 7 cm is  
 (a)  $\frac{77}{2} \text{ cm}^2$       (b)  $\frac{74}{4} \text{ cm}^2$       (c)  $\frac{22}{7} \text{ cm}^2$       (d)  $\frac{35}{2} \text{ cm}^2$
37. Which of the following will satisfy the pair of equations  $kx + y = 2$ ,  $x - y = 4$  with unique solution?  
 (a)  $k = -1$       (b)  $k \neq -1$       (c)  $k \neq 1$       (d) None of these
38. If  $-1$  is a zero of the polynomial  $p(x) = x^2 - 7x - 8$ , then the other zero is  
 (a) 7      (b) 8      (c) 1      (d) 0
39. The perimeter and area of a circle are numerically equal. What is the radius of the circle?  
 (a) 1 units      (b) 2 units      (c) 3 units      (d) 4 units
40. The number of solutions of the pair of linear equations  $3x - 5y = -1$  and  $6x - y = 7$  will be  
 (a) zero      (b) infinite      (c) unique      (d) only two

 If you've any doubt or want help, please post the image (screenshot) of your question in the Telegram Group <https://t.me/Mathematicia4Tenth>

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## ANSWER KEY

- |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 01. | (c) | 02. | (d) | 03. | (b) | 04. | (c) | 05. | (a) | 06. | (b) |
| 07. | (d) | 08. | (a) | 09. | (c) | 10. | (c) | 11. | (c) | 12. | (c) |
| 13. | (c) | 14. | (b) | 15. | (d) | 16. | (a) | 17. | (d) | 18. | (b) |
| 19. | (b) | 20. | (b) | 21. | (c) | 22. | (a) | 23. | (a) | 24. | (c) |
| 25. | (b) | 26. | (a) | 27. | (b) | 28. | (d) | 29. | (c) | 30. | (a) |
| 31. | (b) | 32. | (a) | 33. | (a) | 34. | (d) | 35. | (c) | 36. | (a) |
| 37. | (b) | 38. | (b) | 39. | (b) | 40. | (c) |     |     |     |     |

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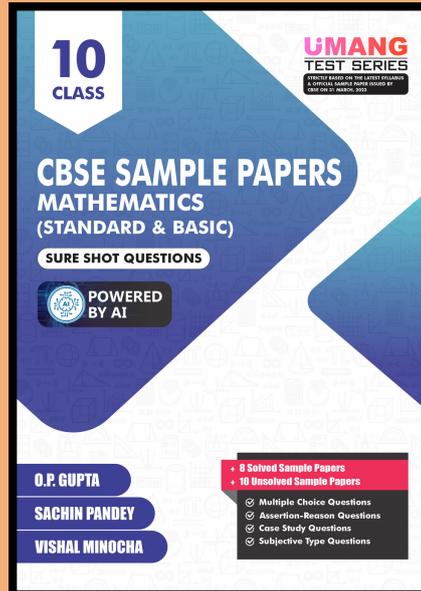
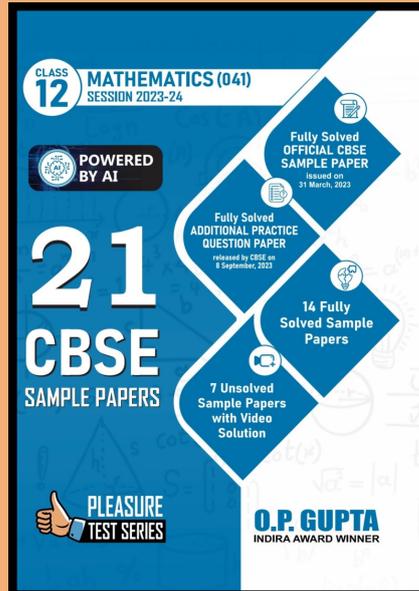
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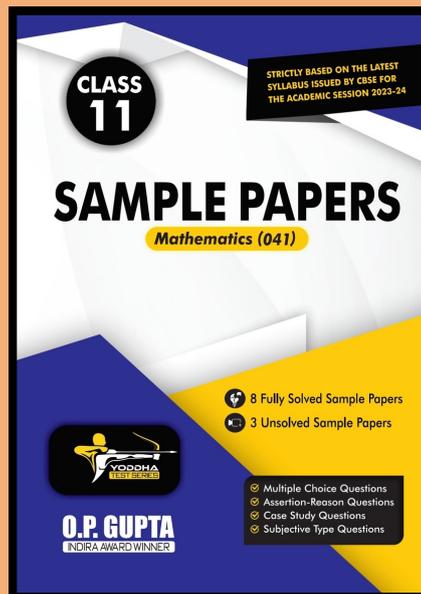
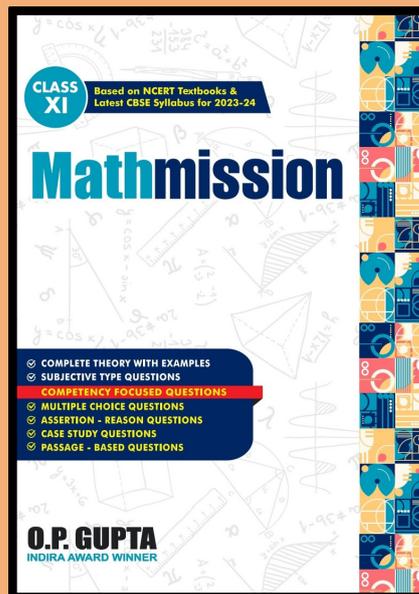
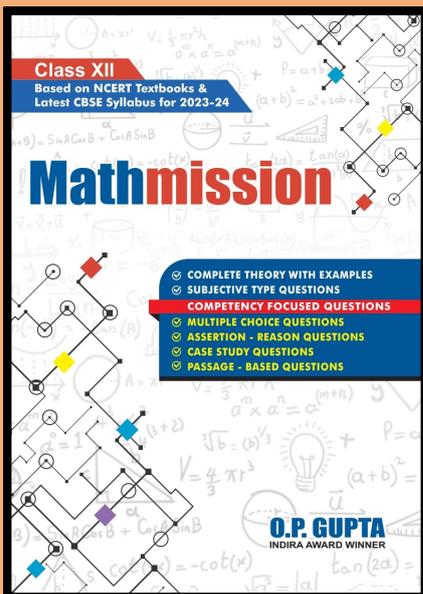
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