

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


Math Mentor & 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 θ is
- (a) 30° (b) 45° (c) 90° (d) 0°
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) πr^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) $\frac{77}{2}$ cm² (b) $\frac{74}{4}$ cm² (c) $\frac{22}{7}$ cm² (d) $\frac{35}{2}$ cm²
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>

 For YouTube Lectures (MCQ Type) :

Visit YouTube channel **Mathematicia By O.P. Gupta**

 For Chapter-wise Assignments :

Visit <https://theopgupta.com/>

ANSWER KEY

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 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) | | | | |