

34. The slope of a straight line parallel to the line $2x + 4y + 5 = 0$ is
- a) 2 b) $1/2$ c) $-1/2$ d) -2
35. The angle of inclination of a straight line whose slope is $\sqrt{3}$ is
- a) 0^0 b) 30^0 c) 60^0 d) 90^0
36. The angle of inclination of the straight line $5y = 5x + 10$ is
- a) 0^0 b) 30^0 c) 60^0 d) 45^0
37. In ΔABC , $AB=6\text{cm}$ and AD is the angle bisector of $\angle A$
If $BD : DC = 3 : 2$ then $AC = \dots\dots$
- a) 4 cm b) 6 cm c) 8 cm d) 10 cm
38. If $A + B = 90^0$ then $\text{Sin}A \text{Cos}B + \text{Cos}A \text{Sin}B = \dots\dots\dots$
- a) 2 b) 1 c) 0 d) 45^0
39. $\frac{1}{\tan \theta + \cot \theta} = \dots\dots\dots$
- a) $\sin \theta + \cos \theta$ b) $\sin \theta - \cos \theta$ c) $\sin \theta \cos \theta$ d) $\text{cosec } \theta + \cot \theta$
40. $\text{Cosec }^2 67^0 - \tan^2 23^0 = \dots\dots\dots$
- a) 0 b) -1 c) 1 d) 2

"TRY, TRY AND TRY AGAIN YOU WILL
SUCCEED AT LAST"

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UNIVERSAL MATRIC HR SEC SCHOOL
MATHEMATICS
Creative Questions

(This type of questions may be asked in the examination)

1. The father of Geometry is -----
- a) Euclid b)Thales c) Hipparchus d) Pythagoras
2. The father of trigonometry is -----
- a)Euclid b)Thales c) Hipperchus d) pythagoras
3. The father of algebra = -----
- a)Diophantus b) Aryabhata c) Al-khwarizmi d)Demorgan
4. The G.C.D of $15x^4y^3z^5, 12x^2y^7z^2$
- a) $15x^4y^7z^5$ b) $3x^2y^3z^2$ c) $12x^2y^3z^2$ d) $3x^4y^7z^5$
5. The G.C.D of $35x^5y^3z^4, 49x^2yz^3, 14xy^2z^2$
- a) $7xyz^2$ b) $7x^5y^3z^4$ c) $35x^5y^3z^4$ d) $7x^2y^2z^4$
6. The L.C.M of $35a^2c^3b, 42a^3cb^2, 30ac^2b^3 = \dots\dots\dots$
- a) $75a^2b^2c^2$ b) $210a^3b^3c^3$ c) $210a^3b^2c^2$ d) $30a^3b^3c^3$
7. The LCM of $a^{m+1}, a^{m+2}, a^{m+3} = \dots\dots\dots$ a) a^{m+3} b) a^{m+1} c) a^{m+2} d) a^{m+6}
8. The lowest term of $\frac{x^2-2x}{x+2} \times \frac{3x+6}{x-2}$
- a) $(x+2)$ b) $(x-2)$ c) $(2x+1)$ d) $3x$
9. The square root of $121x^8y^6 \div 81x^4y^8$
- a) $\frac{11}{9} \left| \frac{x^2}{y} \right|$ b) $\frac{11}{9} \left| \frac{x^4}{y^2} \right|$ c) $\frac{11}{9} \left| \frac{x}{y} \right|$ d) a) $\frac{11}{9} \left| \frac{x^4}{y^6} \right|$
10. The square root of $289(a-b)^4(b-c)^6$
- a) $17|(a-b)(b-c)|$
b) $17|(a-b)^2(b-c)^2|$ c) $17|(a-b)^2(b-c)^3|$ d) $17|(a-b)^4(b-c)^6|$

11. Matrix $A = [a_{ij}]_{m \times n}$ is a row matrix if
- a) $m = n$ b) $n = 1$ c) $m = 1$ d) $a_{ij} = 0$
12. Matrix $A = [a_{ij}]_{m \times n}$ is a column matrix if
- a) $m = n$ b) $n = 1$ c) $m = 1$ d) $a_{ij} = 0$
13. Matrix $A = [a_{ij}]_{m \times n}$ is a square matrix if
- a) $m = n$ b) $n = 1$ c) $m = 1$ d) $a_{ij} = 0$
14. $(\sin \theta + \cos \theta)^2 - (\sin \theta - \cos \theta)^2 = \dots\dots\dots$
- a) 1 b) $4 \sin \theta \cos \theta$ c) 0 d) $2 \sin \theta \cos \theta$
15. If $\sin \theta = \cos \theta$ then the value of ' θ ' is
- a) 0^0 b) 30^0 c) 45^0 d) 60^0
16. $1 - \tan^2 45^0 = \dots\dots\dots$ a) 0 b) 1 c) -1 d) $\sqrt{3}$
17. If $\tan \theta = \cot \theta$ then the value of θ is
- a) 0^0 b) 45^0 c) 60^0 d) 90^0
18. $\cos (90^0 - \theta) = \dots\dots\dots$
- a) $\sin \theta$ b) $\tan \theta$ c) $\cos \theta$ d) $\operatorname{cosec} \theta$
19. $\sec (90^0 - \theta) = \dots\dots\dots$
- a) $\sin \theta$ b) $\tan \theta$ c) $\cos \theta$ d) $\operatorname{cosec} \theta$
20. The equation of a rectangular hyperbola is of the form
- a) $xy = k$ b) $x = c$ c) $y = kx$ d) $y = k$
21. The equation of x - axis is
- a) $x = 0$ b) $x = k$ c) $y = 0$ d) $y = k$
22. The equation of y - axis is
- a) $x = 0$ b) $x = k$ c) $y = 0$ d) $y = k$
23. The equation of a straight line parallel to y - axis is
- a) $x = 0$ b) $y = 0$ c) $x = k$ d) $y = k$
24. The equation of a straight line parallel to x - axis is
- a) $x = 0$ b) $y = 0$ c) $x = k$ d) $y = k$
25. The mid point of the line joining (3, 0) and (-1, 4) is
- a) (1, 2) b) (2, 4) c) (2, 1) d) (2, 2)
26. The value of $3 + 6 + 9 + \dots\dots\dots + 60$.
- a) 510 b) 600 c) 570 d) 630
27. If $2 + 4 + 6 + \dots\dots\dots + 2k = 90$ then the value of k is
- a) 8 b) 10 c) 9 d) 11
28. If 2, x, $2\sqrt{2}$ are in A.P then the common difference is
- a) $\sqrt{2}$ b) $\sqrt{2} - 1$ c) $\sqrt{2} + 1$ d) $\frac{\sqrt{2}}{2}$
29. If $\alpha + \beta = 14$ and $\alpha - \beta = 2\sqrt{3}$ then $\alpha\beta = \dots\dots\dots$
- a) 42 b) 44 c) 46 d) 48
30. If $x^2 + \frac{1}{x^2} = 23$, $x > 0$ then $x + \frac{1}{x}$ is
- a) 2 b) 3 c) 4 d) 5
31. The value of $\sqrt{(1-x)^2(2-x)^2(3-x)^2}$ when $x = 4$ is
- a) 3 b) -3 c) 6 d) -6
32. The centroid of a triangle is the origin. If (1, -2) and (-3, 5) are two vertices then the third vertex is
- a) (-2, 3) b) (2, 3) c) (-2, -3) d) (2, -3)
33. The slope of a straight line parallel to x - axis is
- a) 0 b) 1 c) -1 d) not defined

ANSWER KEY :

1. a) Euclid
2. c) Hipperchus
3. c) Al-khwarizmi
4. b) $3x^2y^3z^2$
5. a) $7xyz^2$
6. b) $210 a^3b^3c^3$
7. a) a^{m+3}
8. d) $3x$
9. a) $\frac{11}{9} \left| \frac{x^2}{y} \right|$
10. c) $17 |(a - b)^2 (b - c)^3|$
11. b) $m = 1$
12. c) $n = 1$
13. a) $m = n$
14. b) $4 \sin \theta \cos \theta$
15. c) 45^0
16. a) 0
17. b) 45^0
18. a) $\sin \theta$
19. d) $\operatorname{cosec} \theta$
20. a) $xy = k$
21. b) $y = 0$
22. a) $x = 0$
23. c) $x = k$
24. d) $y = k$
25. a) $(1, 2)$
26. d) 630
27. b) $k = 9$
28. c) $\sqrt{2} + 1$
29. c) 46
30. d) 5
31. c) 6
32. d) $(2, -3)$
33. a) 0
34. c) $-1/2$
35. c) 60
36. d) 45^0
37. a) 4 cm
38. b) 1
39. c) $\sin \theta \cos \theta$
40. b) 1
