



INDIAN SCHOOL AL WADI AL KABIR

Department of Mathematics, 2020-2021

CLASS: XI

Final Assessment

16-02-2021

Revision – AP, GP, 3D, Conics, Straight Lines

1. If a, b, c are in AP then

- (a) $b = a + c$ (b) $2b = a + c$ (c) $b^2 = a + c$ (d) $2b^2 = a + c$

2. If $1/(b + c), 1/(c + a), 1/(a + b)$ are in AP then

- (a) a, b, c are in AP (b) a^2, b^2, c^2 are in AP (c) $1/a, 1/b, 1/c$ are in AP (d) None of these

3. The third term of a geometric progression is 4. The product of the first five terms is

- (a) 4^3 (b) 4^5 (c) 4^4 (d) none of these

4. The first term of a GP is 1. The sum of the third term and fifth term is 90. The common ratio of GP is

- (a) 1 (b) 2 (c) 3 (d) 4

5. If the third term of an A.P. is 7 and its 7th term is 2 more than three times of its third term, then the sum of its first 20 terms is

- (a) 228 (b) 74 (c) 740 (d) 1090

6. For a G.P. the ratio of the 7th and the third terms is 16. The sum of 9 terms is 2555. What is the first term?

- (a) 7 (b) 5 (c) 4 (d) 9

7. The equation of the locus of a point, whose abscissa and ordinate are always equal is

- (a) $x + y + 1 = 0$ (b) $x - y = 0$ (c) $x + y = 1$ (d) none of these.

8. The equation of straight line passing through the point (1, 2) and parallel to the line $y = 3x + 1$ is

- (a) $y + 2 = x + 1$ (b) $y + 2 = 3(x + 1)$ (c) $y - 2 = 3(x - 1)$ (d) $y - 2 = x - 1$

9. The equation of the line which cuts off equal and positive intercepts from the axes and passes through the point (α, β) is

- (a) $x + y = \alpha + \beta$ (b) $x + y = \alpha$ (c) $x + y = \beta$ (d) None of these

10. The equation of the line passing through the point (2, 3) with slope 2 is

- (a) $2x + y - 1 = 0$ (b) $2x - y + 1 = 0$ (c) $2x - y - 1 = 0$ (d) $2x + y + 1 = 0$

11. The slope of the line $ax + by + c = 0$ is

- (a) a/b (b) $-a/b$ (c) $-c/b$ (d) c/b

12. Equation of the line passing through (0, 0) and slope m is

- (a) $y = mx + c$ (b) $x = my + c$ (c) $y = mx$ (d) $x = my$

13. The length of the perpendicular from the origin to a line is 7 and the line makes an angle of 150 degrees with the positive direction of the y-axis. Then the equation of line is

- (a) $x + y = 14$ (b) $\sqrt{3}y + x = 14$ (c) $\sqrt{3}x + y = 14$ (d) None of these

14. The equation of the line through the points (1, 5) and (2, 3) is

- (a) $2x - y - 7 = 0$ (b) $2x + y + 7 = 0$ (c) $2x + y - 7 = 0$ (d) $x + 2y - 7 = 0$

15. The perpendicular distance from the point (3, -4) to the line $3x - 4y + 10 = 0$

- (a) 7 (b) 8 (c) 9 (d) 10

16. The equation of parabola with vertex at origin the axis is along x-axis and passing through the point (2, 3) is

(a) $y^2 = 9x$ b) $y^2 = 9x/2$ (c) $y^2 = 2x$ (b) $y^2 = 2x/9$

17. At what point of the parabola $x^2 = 9y$ is the abscissa three times that of ordinate

(a) (1, 1) (b) (3, 1) (c) (-3, 1) (d) (-3, -3)

18. The number of tangents that can be drawn from (1, 2) to $x^2 + y^2 = 5$ is

(a) 0 (b) 1 (c) 2 (d) More than 2

19. In an ellipse, the distance between its foci is 6 and its minor axis is 8 then its eccentricity is

(a) $4/5$ (b) $1/\sqrt{52}$ (c) $3/5$ (d) $1/2$

20. The equation of a hyperbola with foci on the x-axis is

(a) $x^2/a^2 + y^2/b^2 = 1$ (b) $x^2/a^2 - y^2/b^2 = 1$ (c) $x^2 + y^2 = (a^2 + b^2)$ (d) $x^2 - y^2 = (a^2 + b^2)$

21. If the end points of a diagonal of a square are (1, -2, 3) and (2, -3, 5) then the length of the side of the square is

(a) $\sqrt{3}$ unit (b) $2\sqrt{3}$ unit (c) $3\sqrt{3}$ unit (d) $4\sqrt{3}$ unit

Answers

1. (b) $2b = a + c$ 2. (b) a^2, b^2, c^2 are in AP 3. (b) 4^5 4. (c) 3 5. (c) 740

6. (b) 5 7. (b) $x - y = 0$ 8. (c) $y - 2 = 3(x - 1)$ 9. (a) $x + y = \alpha + \beta$

10. (c) $2x - y - 1 = 0$ 11. (b) $-a/b$ 12. (c) $y = mx$ 13. (c) $\sqrt{3}x + y = 14$

14. (c) $2x + y - 7 = 0$ 15. (a) 7 16. (b) $y^2 = 9x/2$ 17. (b) (3, 1) 18. (b) 1

19. (c) $3/5$ 20. (b) $x^2/a^2 - y^2/b^2 = 1$ 21. (a) $\sqrt{3}$ unit