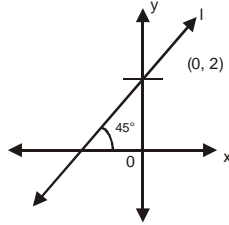


Unit 4: Elements of Plane Analytical Geometry

- 1) The set $\{x \mid a < x < b\}$ can also written as
- A) $[a, b]$
B) (a, b)
C) $[a, b)$
D) $(a, b]$
- 2) The set $\{x \mid a \leq x \leq b\}$ is called
- A) Interval
B) Open Interval
C) Half Open interval
D) Closed interval
- 3) The distance between the points $(0, 0)$ and $(0, 2)$ is
- A) 4
B) 2
C) $\sqrt{2}$
D) 0
- 4) If $P_1 (X_1, Y_1)$ and $P_2 (X_2, Y_2)$ are two points such that $\overline{P_1P_2}$ is parallel to x – axis, then
- A) $x_2 = x_1$
B) $x_2 = y_1$
C) $y_2 = y_1$
D) $y_2 = x_2$
- 5) If $O (0, 0)$, $A (4, 6)$ are two points then the co-ordinates of the mid point \overline{OA} are
- A) $(4, 3)$
B) $(2, 3)$
C) $(4, 6)$
D) $(2, 6)$
- 6) The distance of any point $P(x, y)$ from the origin is
- A) x
B) y
C) $x^2 + y^2$
D) $\sqrt{x^2 + y^2}$
- 7) If point P divides a line segment $\overline{P_1P_2}$ internally then the ratio is
- A) Positive
B) Negative
C) 1 : 2
D) 1 : 3
- 8) The points $(- 2, 0)$, $(- 1, 0)$, $(1, 0)$ and $(2, 0)$ lie on
- A) y – axis
B) x- axis
C) $y = - x$
D) $y = 5x$
- 9) If $A (0, 0)$, $B (3, 0)$ and $C(0, 3)$ are the vertices of a triangle then co-ordinates of its centroid is
- A) $(1, 1)$
B) $(0, 1)$
C) $(3, 3)$
D) $(\frac{3}{2}, \frac{3}{2})$
- 10) The points $(2, 2)$, $(3, 3)$ and $(5, 5)$ lie on a line defined by the equation
- A) $x + y = 0$
B) $y = 2x$
C) $y = 3x$
D) $x - y = 0$
- 11) The points $(1, - 1)$, $(2, - 2)$, $(4, -4)$ are
- A) collinear
B) non collinear
C) on three lines
D) vertices of a triangle

- 12) The points (0, 0), (1, 0) and (0, 2) are the vertices of
- A) Right triangle
 B) Isosceles Triangle
 C) Equilateral triangle
 D) Oblique triangle
- 13) If the points A (x_1, y_1), B (x_2, y_2) and C(x_3, y_3) are collinear, then area of triangle ABC is
- A) 0
 B) 1
 C) 2
 D) 3
- 14) If two medians of a triangle intersect at a point (2, 2) then 3rd median will pass through the point
- A) (0, 1)
 B) (3, 3)
 C) (1, 1)
 D) (2, 2)
- 15) If two internal angle bisectors of a triangle pass through the origin then the 3rd angle bisector will pass through the point
- A) (3, 0)
 B) (0, 3)
 C) (0, 0)
 D) (3, 3)
- 16) In inclination of a straight line is 45° then its slope is equal to
- A) 0
 B) 1
 C) - 1
 D) ∞
- 17) If slope of a line is 2 then slope of the line perpendicular to this line is equal to
- A) - 2
 B) $-\frac{1}{2}$
 C) 2
 D) 0
- 18) If a line is parallel to y-axis then slope of the line perpendicular to this line is
- A) ∞
 B) 0
 C) 1
 D) - 1
- 19) The inclination of the line defined by the equation $y = -x$ is
- A) $-\frac{p}{3}$
 B) $-\frac{p}{2}$
 C) $\frac{3p}{4}$
 D) $\frac{p}{4}$
- 20) If the inclination of a line is $\frac{p}{4}$ then equation of that line is
- A) $x - y = 0$
 B) $x + y = 0$
 C) $2x - y = 1$
 D) $x + y = 1$
- 21) If one of the angles between two intersecting lines is 122° then the acute angle between these lines is of measure
- A) 98°
 B) 68°
 C) 58°
 D) 22°
- 22) The equation of the line passing through the points (-1, 1), (- 1, - 1) and (- 1, 0) is
- A) $y = -x + 1$
 B) $y = -1$
 C) $x = -1$
 D) $x + y = -1$

23) Equation of the line l given in the figure is



- A) $y = 2x + 1$
- B) $y = 2x - 1$
- C) $y = x + 2$
- D) $y = x - 2$

24) The equation of the line passing through the points (1, 0) and (0, 1) is

- A) $x - y = 1$
- B) $x + y = 1$
- C) $x + y = -1$
- D) $x - y = -1$

25) The point of intersection of the lines $3x + 4y = 0$ and $5x - 6y = 0$

- A) (3, 4)
- B) (5, -6)
- C) (3, 5)
- D) (0, 0)

26) The three lines defined by the equation $x + 2y = 0$, $2x + y = 0$ and $3x + 5y = 0$ are

- A) Parallel

- B) Perpendicular
- C) Concurrent
- D) Not parallel

27) The length and breadth of a plane is

- A) finite
- B) infinite
- C) x, y
- D) $x + y$

28) The distance of the point (7, 0) from the line $y - 2 = 0$ is

- A) 7
- B) 2
- C) 5
- D) 0

29) The distance of the point (2, 3) from the line

$x + y = 5$ is

- A) 2
- B) 0
- C) 3
- D) 5

30) The distance between the two lines, defined by

$y - 2 = 0$ and $y + 2 = 0$

- A) 0
- B) 2
- C) 4
- D) $\frac{1}{4}$

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