INDIAN SCHOOL AL WADI AL KABIR
DEPARTMENT OF MATHEMATICS 2025 – 2026
Straight Lines
Work Sheet – Class XI

1 The general equation of line is ……
a) $y = mx + c$ b) $Ax + By + C = 0$ c) $x \cos \alpha + y \sin \alpha = p$ d) $y - y_1 = m(x - x_1)$

2 Two opposite vertices of a rectangle are (1, 3) and (5, 1). If the equation of a diagonal of this rectangle is $y = 2x + c$ then the value of c is …….
a) 1 b) 2 c) - 4 d) – 9

3 The distance between the lines $3x + 4y = 9$ and $6x + 8y = 15$ is …….
a) 6 b) 3 c) 1/3 d) 3/10

4 The inclination of the line $x - y + 3 = 0$ with the positive direction of x-axis is ……
a) 45^0 b) 135^0 c) -135^0 d) -45^0

5 The equation of the line passing through (1, 2) and perpendicular to $x + y + 7 = 0$ is …….
a) $y - x + 1 = 0$ b) $y - x - 1 = 0$ c) $y - x + 2 = 0$ d) $y - x - 2 = 0$

6 If the line $\frac{x}{a} + \frac{y}{b} = 1$ passes through the points (2, -3) and (4, -5) then (a, b) is ……
a) (1, 1) b) (1, -1) c) (-1, 1) d) (-1, -1)

7 The equations of the lines which pass through the point (3, –2) and are inclined at 60° to the line $\sqrt{3}x + y = 1$ are …….
a) $y + 2 = 0,\ \sqrt{3}x - y - 2 - 3\sqrt{3} = 0$ c) $\sqrt{3}x - y - 2 - 3\sqrt{3} = 0$
b) $x - 2 = 0,\ \sqrt{3}x - y + 2 + 3\sqrt{3} = 0$ d) None of these

8 Equation of the line passing through (1, 2) and parallel to the line $y = 3x - 1$ is
a) $y - 2 = x - 1$ b) $y + 2 = x + 1$ c) $y - 2 = 3(x - 1)$ d) $y + 2 = 3(x + 1)$

9 Slope of a line which cuts off intercepts of equal lengths on the axes is
a) - 1 b) 2 c) 0 d) $\sqrt{3}$

10 A point equidistant from the lines $4x + 3y + 10 = 0$, $5x - 12y + 26 = 0$ and $7x + 24y - 50 = 0$ is
a) (1, 1) b) (1, - 1) c) (0, 1) d) (0, 0)

11 One vertex of the equilateral triangle with centroid at the origin and one side as $x + y - 2 = 0$ is
a) (-1, - 1) b) (2, 2) c) (-2, -2) d) (2, -2)

12 Line through the points (–2, 6) and (4, 8) is perpendicular to the line through the points (8, 12) and (x, 24). The value of x is
a) 4 b) 3 c) 2 d) 1

13 A point on the x-axis, which is equidistant from the points (7, 6) and (3, 4) is .....
a) (1/2, 0) b) (15/2, 0) c) (1, 7) d) (15, 2)

14 The distance of the point P (1, – 3) from the line 2y – 3x = 4 is .....
a) 13 b) $\sqrt{13}$ c) 1/ $\sqrt{13}$ d) $\sqrt{3}$

15 The value of x for which the points (x, – 1), (2,1) and (4, 5) are collinear is .....
a) 0 b) -1 c) 1 d) none of these

16 The equations of the lines parallel to axes and passing through (– 2, 3) are .....
a) x = -2, y = 3 b) x = 2, y = -3 c) x = 3, y = -2 d) x = -3, y = 2

17 The equation of the line through the points (1, –1) and (3, 5) is
a) 3x + y + 4 = 0 b) – 3x + y + 4 = 0 c) 3x – y + 4 =0 d) none of these

18 The equation of the line, which makes intercepts –3 and 2 on the x- and y-axes respectively is..
a) 2x + 3y + 6 = 0 b) 2x + 3y - 6 = 0 c) 2x + 3y - 6 = 0 d) 2x - 3y + 6 = 0

19 The angle between the lines x + 2y = 3 and y - 2x = 5 is ....
a) 45^0 b) 60^0 c) 90^0 d) 0^0

20 Which of the following equation of line is not passing through origin (0, 0)?
a) x + 7 y = 23 b) 13 x – 4 y = 2x c) (x + 6) = 2(y + 3) d) (x – 1) – (y – 1) = 0

21 The slope of the line ax + by + c = 0 is
a) a/ b b) – a/ b c) – c/ b d) c/ b

CASE STUDY

A girl standing at the junction (crossing) of two straight paths represented by the equations 2x – 3y + 4 = 0 and 3x + 4y – 5 = 0 wants to reach the path whose equation is 6x – 7y + 8 = 0 in the least time.

21 Equation of path that she should follow is

22 The y- intercept of the path used to reach in least time at 6x – 7y + 8 = 0 is

23 The x – intercept of the path used to reach in least time at 6x – 7y + 8 = 0 is

Answer Key

1	B	6	D	11	B	16	A	21	B
2	C	7	A	12	A	17	B	22	119 x + 102 y = 125
3	D	8	C	13	B	18	D	23	125/ 102
4	A	9	A	14	B	19	C	24	125 / 119
5	B	10	D	15	C	20	A		