

INDIAN SCHOOL AL WADI AL KABIR

DEPARTMENT OF MATHEMATICS 2024 – 2025



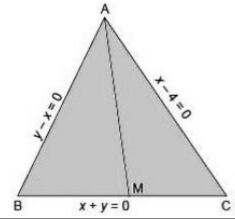
Work Sheet — Class XI STRAIGHT LINES

			STRAIGHT LIN	ES ES	.		
1	The value of y will be, so that the line through $(3, y)$ and $(2, 7)$ is parallel to the line through $(-1, 4)$ and $(0, 6)$.						
	(a) 7	(b) 8	(c) 9	(d) 10			
2	The equations of (a) $x - 2y - 4 = 0$ (c) $x + 2y + 4 = 0$	(b) x		ts-off an intercept 4 on X -ax	tis is		
3	Lines through the points $(-2, 6)$ and $(4, 8)$ is perpendicular to the line through the points $(8, 12)$ and $(x, 24)$. Then, the value of x is						
4	The distance bety (a) 3/10	(b) 2/25	3x + 4y = 9 and $6x + 8(c) 7/10$	y = 15 is (d) $3/25$			
5	Slope of a line v (a) -1	which cuts off (b) 0	intercepts of equal le (c) 2	ngths on the axes is (d) $\sqrt{3}$			
6	If the coordinates of the middle point of the portion of a line intercepted between the coordinate axes is (3, 2), then the equation of the line will be						
7	_		$rac{gh (-2, 3) \text{ with slope}}{+5 = 0}$ (c) x + y		+ 4y - 6 =0		
8	The perpendicul (a) 10 unit	ar distance fro (b) 5 unit	om origin to the line 5 (c) 2 unit	5x + 12y - 13 = 0 is (d) 1 u	mit		
9	Assertion (A): The distance between the lines $4x + 3y = 11$ and $8x + 6y = 15$ is $7/10$. Reason (R): The distance between the lines $ax + by = c_1$ and $ax + by = c_2$ is given by $\frac{c_1 - c_2}{\sqrt{a^2 + b^2}}$						
10	Find the value of k, if the straight line $2x + 3y + 4 + k(6x - y + 12) = 0$ is perpendicular to the line $7x + 5y - 4 = 0$.						
11	If p is the length of perpendicular from origin to the line which makes intercepts a, b on the axes prove that: $\frac{1}{p^2} = \frac{1}{a^2} + \frac{1}{b^2}$						
12	Find image of the point P (-8, 12) with respect to the line mirror $4x + 7y + 13 = 0$.						
13	Find the angle between the x-axis and the line joining the points $(3, -1)$ and $(4, -2)$.						
14	Show that the lin	nes 27x – 18y	+25 = 0 and $2x + 3y$	+ 7 = 0 are perpendicular	to each other.		

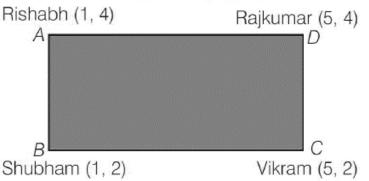
- Find the equation of the line which passes through the point (3, 4) and the sum of whose intercepts on the axes is 14.
- Find the equation of the line through the point (3, 2) which makes an angle of 45° with the line x 2y = 3.
- Find the equation of the line passing through the intersection of the lines x + y + 1 = 0 and x y + 1 = 0 and whose distance from the origin is 1.
- Three friends are sitting in a triangular park ABC. They marked the sides AB, BC and CA are represented by lines y x = 0, x + y = 0 and x 4 = 0 respectively

 One friend drawn the partition through A to M. The partition AM divides the triangle into two equal parts

Find the equation of line AM.



In a rectangle park, four friends Rishabh, Shubham, Vikram and Rajkumar are sitting at the corners and chatting through their phones. Their positions in the form of coordinates are given as Rishabh (1, 4), Rajkumar (5, 4) Shubham (1, 2) and Vikram (5, 2)



On the bases of the information answer the following.

(i) Find the equation formed by Shubham and Rajkumar. (2)

OR

- (ii) Find the equation formed by Rishabh and Vikram. (2)
- (iii) Find the Slope of equation of line formed by Rishabh and Rajkumar. (1)
- (iv) Pair for the same slope is
 - (a) Rishabh-Rajkumar and Shubham-Vikram
 - (b) Rishabh-Rajkumar and Rajkumar-Vikram
 - (c)Rishabh-Rajkumar and Rishabh-Shubham
 - (d) None of the above

<u>Answers</u>

		1	I		
1	С	2	A		
3	D	4	A		
5	A	6	A		
7	В	8	D		
9	(a) Both A and R are true and R is the correct explanation of A				
10	$k = -\frac{29}{37}$				
12	image is (-16, -2).				
13	135°				
15	x - 2y - 6 = 0.				
16	x + y - 7 = 0.				
17	3x - y - 7 = 0 or $x + 3y - 9 = 0$				
18	x+1=0				
19	Equation of line AM is $3x - y = 8$				
20	i) $x-2y+3=0$ ii) $x+2y-9=0$ Slope $AD=\frac{4-4}{5-1}=0$ iii) (a) Rishabh-Rajkumar and Shubham-Vikram				