


# INDIAN SCHOOL AL WADI AL KABIR

**Class IX**, Mathematics

## Worksheet-Linear Equations in Two Variables

Q. No.	Questions of 1 Mark each.							
1.	The graph of the linear equation $4x-3y=12$ cuts y-axis at:							
	<b>A</b>	(6, 0)	<b>B</b>	(4, 0)	<b>C</b>	(0, -6)	<b>D</b>	(0, -4)
2.	Which points given below satisfy the equation $2x + 3y = 12$ ?							
	<b>A</b>	(-6, 8)	<b>B</b>	(6, -8)	<b>C</b>	(3, 2)	<b>D</b>	(-4, 5)
3.	Which of the following is a linear equation in one variable?							
	<b>A</b>	$2x + 3y = 0$	<b>B</b>	$x^2 = 5x + 3$	<b>C</b>	$5x = y^2 + 3$	<b>D</b>	$2x + 5 = 11$
4.	The linear equation $2x - 5y = 7$ has:							
	<b>A</b>	unique solution	<b>B</b>	Two solutions	<b>C</b>	Infinitely many solutions	<b>D</b>	no solution
5.	The cost of book (x) exceeds twice the cost of pen (y) by 10 rupees. This statement can be expressed as linear equation as:							
	<b>A</b>	$x - 2y - 10 = 0$	<b>B</b>	$2x - y - 10 = 0$	<b>C</b>	$2x + y - 10 = 0$	<b>D</b>	$x - 2y + 10 = 0$
6.	Any point on the line $y = x$ is of the form :							
	<b>A</b>	(a, a)	<b>B</b>	(0, a)	<b>C</b>	(a, 0)	<b>D</b>	(a, -a)
7.	The ordered pair (m , n) satisfies the equation $ax + by + c = 0$ if:							
	<b>A</b>	$am + bn = 0$	<b>B</b>	$am + bn + c = 0$	<b>C</b>	$c = 0$	<b>D</b>	$am + bn - c = 0$
8.	The value of k if (3,1) lies on $4x - ky = -2$							
	<b>A</b>	10	<b>B</b>	14	<b>C</b>	15	<b>D</b>	12
9.	Which of these equations has (1.5, 4) as one of the solutions?							
	<b>A</b>	$20x + 5y = 87.5$	<b>B</b>	$20x + 5y = 50$	<b>C</b>	$20x + 5y = 520$	<b>D</b>	$20x + 5y = 270$
	<b>DIRECTION:</b> In the question number 11 and 12, a statement of <b>assertion (A)</b> is followed by statement of <b>Reason (R)</b> . Choose the correct option							

	(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A) (b) Both assertion (A) and reason (R) are true and reason (R) is not the correct explanation of assertion (A) (c) Assertion (A) is true but reason (R) is false. (d) Assertion (A) is false but reason (R) is true.														
10.	Assertion: There are infinite number of lines passing through (2, 5). Reason: A linear equation in two variables has unique solution.														
	<b>Questions of 2 marks each</b>														
11.	Find the points where the graph of the equation $3x + 4y = 12$ cuts the x-axis and the y-axis.														
12.	Determine the solution of the equation $2x + 5y = 20$ whose x-coordinate is $\frac{5}{2}$ times its ordinate.														
13.	Rohit earned ₹3550 by selling some bags each for ₹500 and some baskets each for ₹150. Aarav earned ₹3400 by selling the same number of bags each for ₹400 and the same number of baskets each for ₹200 as Rohit sold. Express the equations relates the number of bags x, and the number of baskets y in the form $ax + by + c = 0$ .														
14.	Check whether $(x - 5) x + 6y - x^2 = 0$ is an equation of the form $ax + by + c = 0$ and find the values of a, b and c.														
15.	If (4, 3) lies on the line $3x - ay = 6$ , check if (-2, -6) also lies on the same line.														
	<b>Questions of 3 marks each</b>														
16.	Show that the points A (1, 2), B (- 1, - 16) and C (0, - 7) are the solutions of the linear equation $y = 9x - 7$ .														
17.	Write down four solutions for the equation $2x+3y=8$														
18.	Find the missing values if (x, y) is a solution of $y - 5x = 2$ <table><tr><td>x</td><td>1</td><td>b</td><td>c</td><td>-2</td><td>2</td><td>f</td></tr><tr><td>y</td><td>a</td><td>17</td><td>-3</td><td>d</td><td>e</td><td>3</td></tr></table>	x	1	b	c	-2	2	f	y	a	17	-3	d	e	3
x	1	b	c	-2	2	f									
y	a	17	-3	d	e	3									
	<b>Question of 5 marks</b>														
19.	For what value of p; $x = 2, y = 3$ is a solution of $(p + 1)x - (2p + 3)y - 1 = 0$ ?														

	(i) Write the equation. (ii) How many solutions are possible for this equation? (iii) Does this line passes through the point (2, -3)? Give justification.							
	<b>Question of 4 marks</b>							
21.	<b>CASE STUDY BASED</b> Prime Minister's National relief fund is the fund raised to provide support for people affected by natural and man-made disasters. Natural disasters that are covered under this include flood, cyclone, earth quake etc. Man-made disasters that are included are major accidents, acid attacks, riots etc.  Two friends Sita and Gita together contributed ₹200 towards PMNF. Answer the following questions: (i) Represent the above situation as a linear equation in two variables. (ii) If Sita contributed Rs. 76, then how much was contributed by Gita? (iii) (a)What is the standard form of the linear equation $x = -5$ ? <b>OR</b> (b)The linear equation $3x = 2y$ when expressed in the form $ax + by + c = 0$ , then find the values of a, b and c.							
	<b>Answers</b>							
<b>Answers</b>	<b>1</b>	D	<b>2</b>	C	<b>3</b>	D	<b>4</b>	C
	<b>5</b>	A	<b>6</b>	A	<b>7</b>	B	<b>8</b>	B
	<b>9</b>	B	<b>10</b>	c	<b>11</b>	(4, 0) , (0,3)	<b>12</b>	(5, 2)
	<b>13</b>	$500x + 150y = 3550$ $, 400x + 200y = 3400$	<b>14</b>	$5x - 6y + 0 = 0$ ; $a = 5, b = -6,$ $c = 0$	<b>15</b>	Yes	<b>18</b>	$a=7, b=3,$ $c=-1, d=-8,$ $e=12, f=\frac{1}{5}$
	<b>19</b>	$p = -2, (i)x - y + 1 = 0$ (ii) infinite (iv) yes	<b>20</b>	(i) $x + y = 200$ (ii) ₹124 (iii)(a) $1x + 0y + 5 = 0$ OR (b) 3, -2, 0				