General instructions for Students: Whatever be the notes provided, everything must be copied in the Maths copy and then do the HOMEWORK in the same copy.
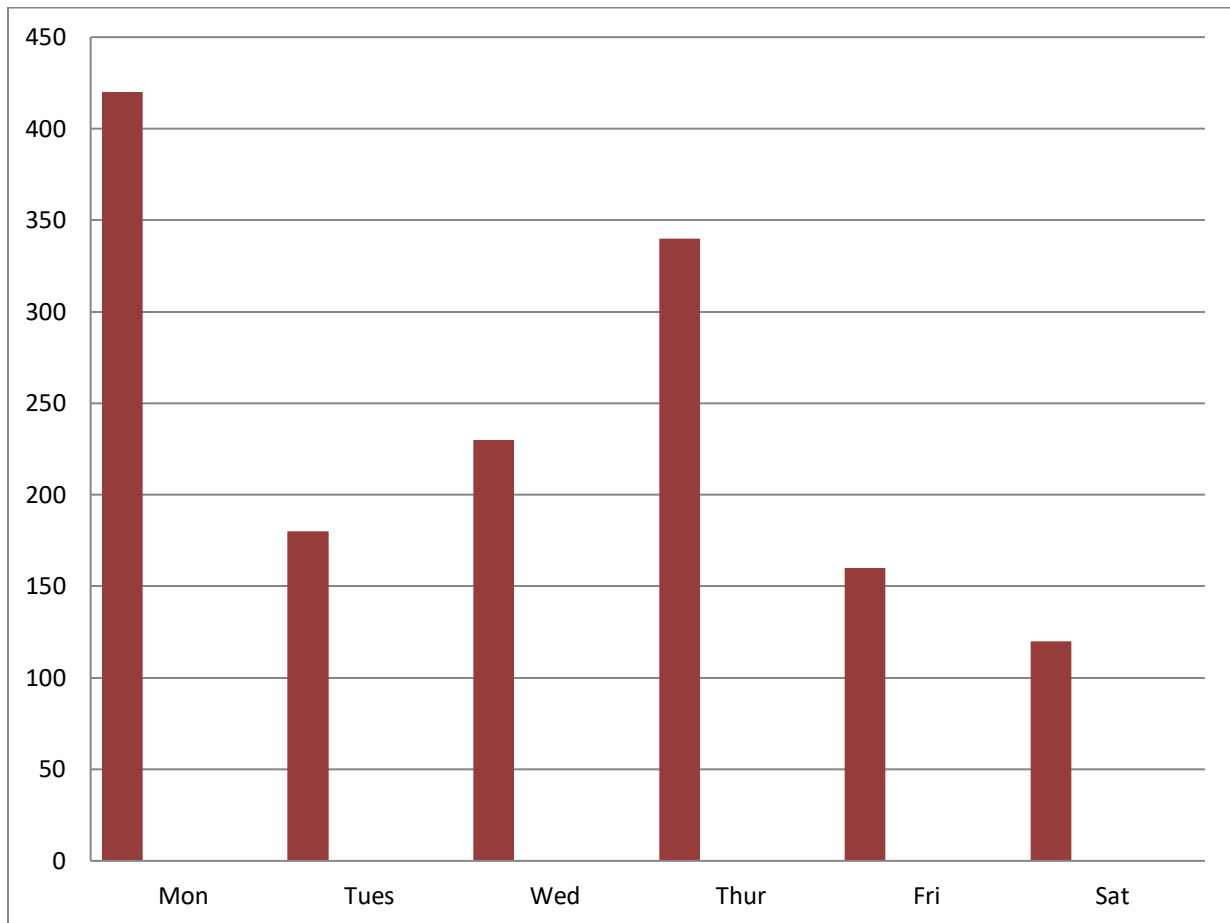
Statistics

EXERCISE − 20. 3

2. The number of books sold by a shopkeeper in a certain week was as follow ∶

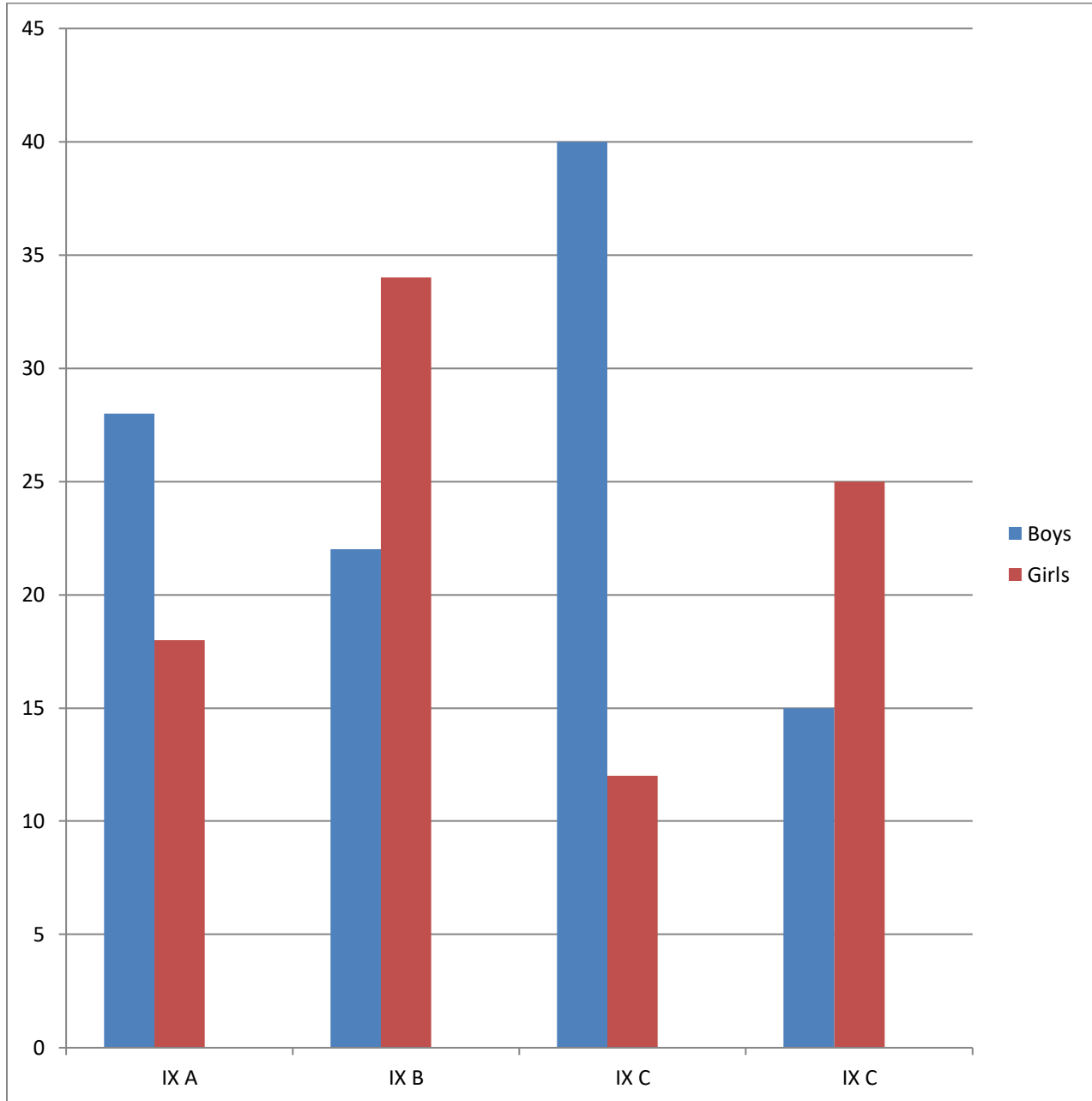| Day	Mon	Tues	Wed	Thur	Fri	Sat
No. of students	420	180	230	340	160	120

Draw a bar graph for the above data.

5. Given below is the data of number of students (boys and girls) in calss IX of a certain school .

Class	IX A	IX B	IX C	IX D
Boys	28	22	40	15
Girls	18	34	12	25

Draw a bar graph to represent the above data.

10. Draw a histogram for the following data :

Classes	$59 - 65$	$66 - 72$	$73 - 79$	$80 - 86$	$87 - 93$	$94 - 100$
Frequency	10	5	25	15	30	10

Classes	$58.5 - 65.5$	$65.5 - 72.5$	$72.5 - 79.5$	$79.5 - 86.5$	$86.5 - 93.5$	$93.5 - 100.5$
Frequency	10	5	25	15	30	10
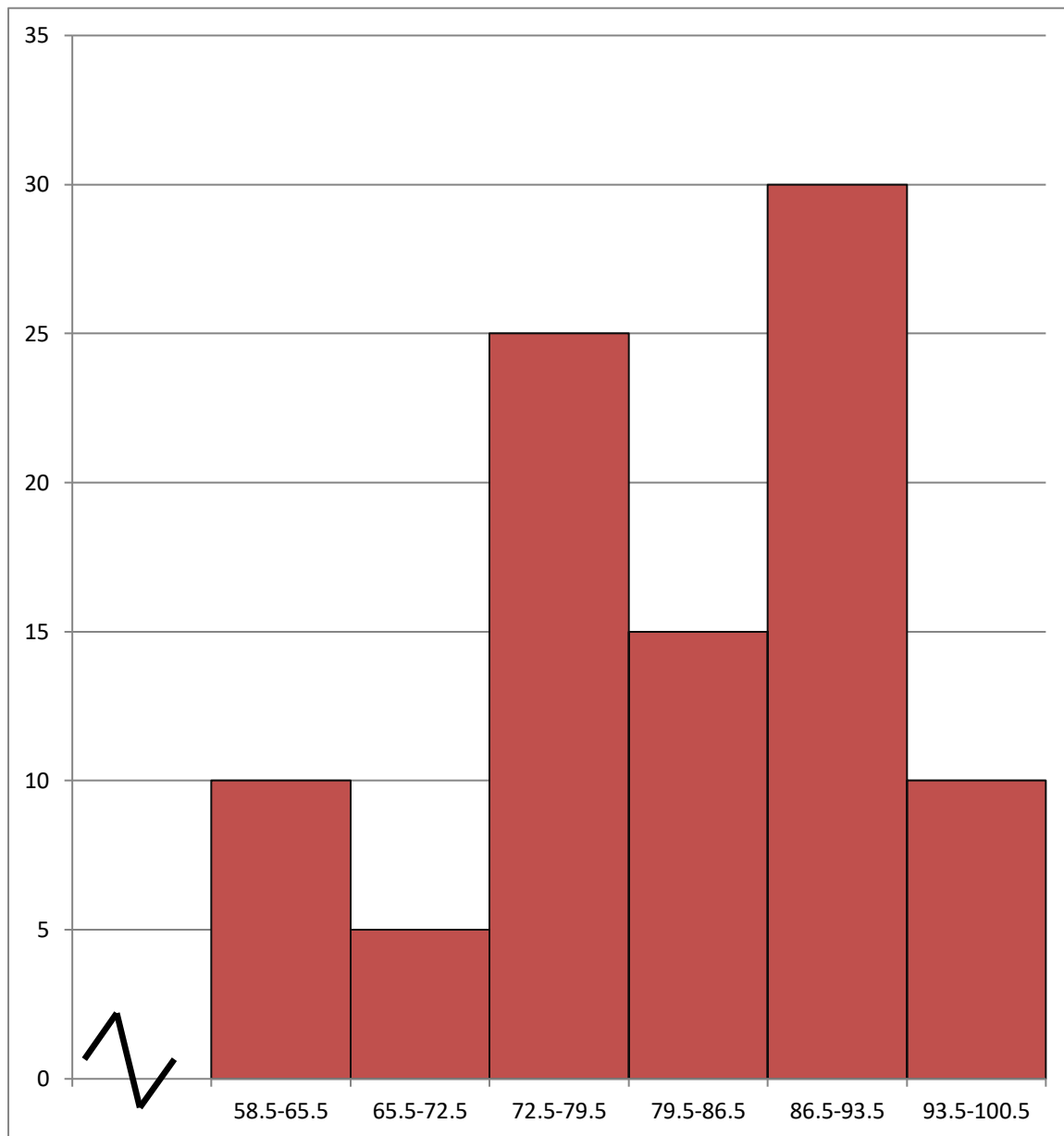
16. In a study of diabetic patients, the following data was obtained :

Age	$10-20$	$20-30$	$30-40$	$40-50$	$50-60$	$60-70$	$70-80$
No. of Patient	3	8	30	36	27	15	6
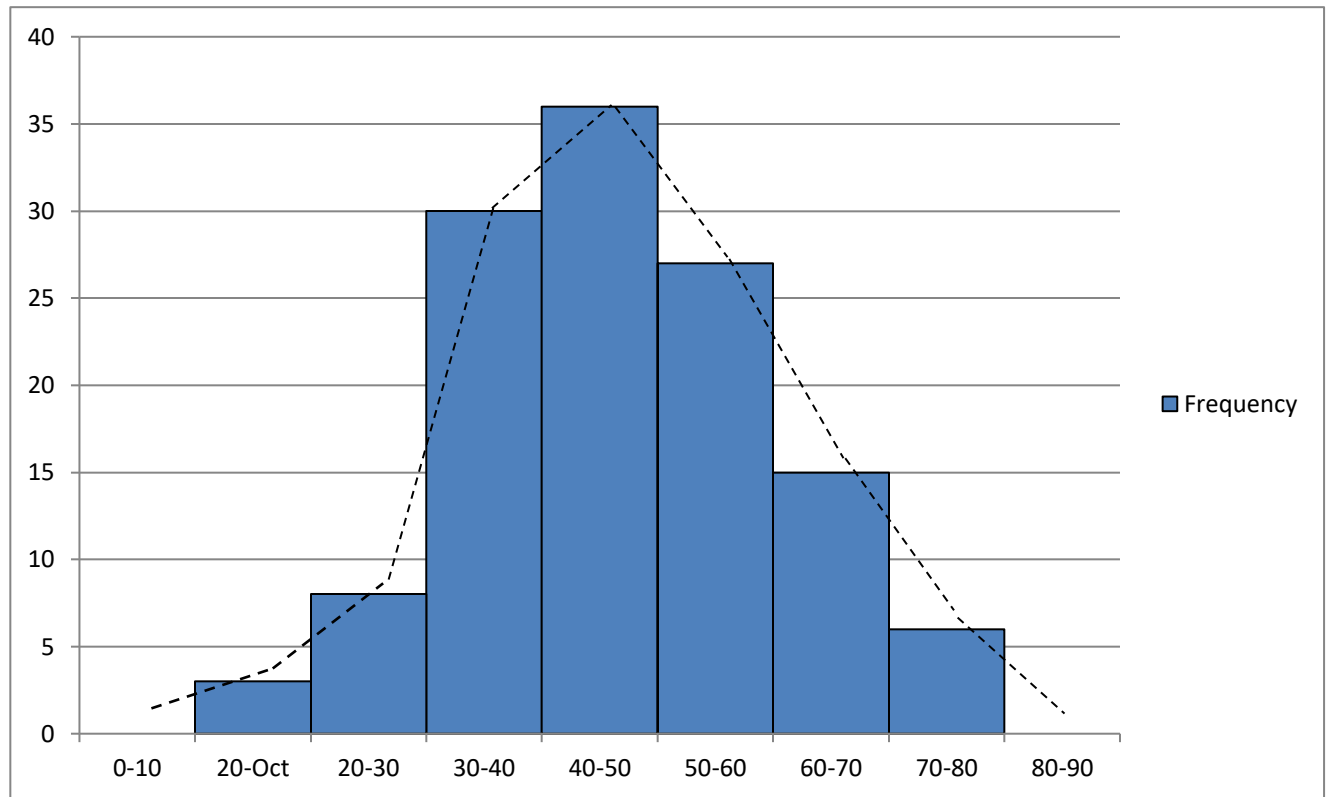
20. The runs scored by two teams A and B on the first 42 balls in a cricket match are given below ;

No. of balls	$1-6$	$7-12$	$13-18$	$19-24$	$25-30$	$31-36$	$37-42$
Runs scored by Team A	2	1	8	9	4	5	6
Run scored by Team B	5	6	2	10	5	6	3

No. of balls	1 − 6	7 − 12	13 − 18	19 − 24	25 − 30	31 − 36	37 − 42
Clas marks	3.5	9.5	15.5	21.5	27.5	33.5	39.5
Runs scored by Team A	2	1	8	9	4	5	6
Run scored by Team B	5	6	2	10	5	6	3
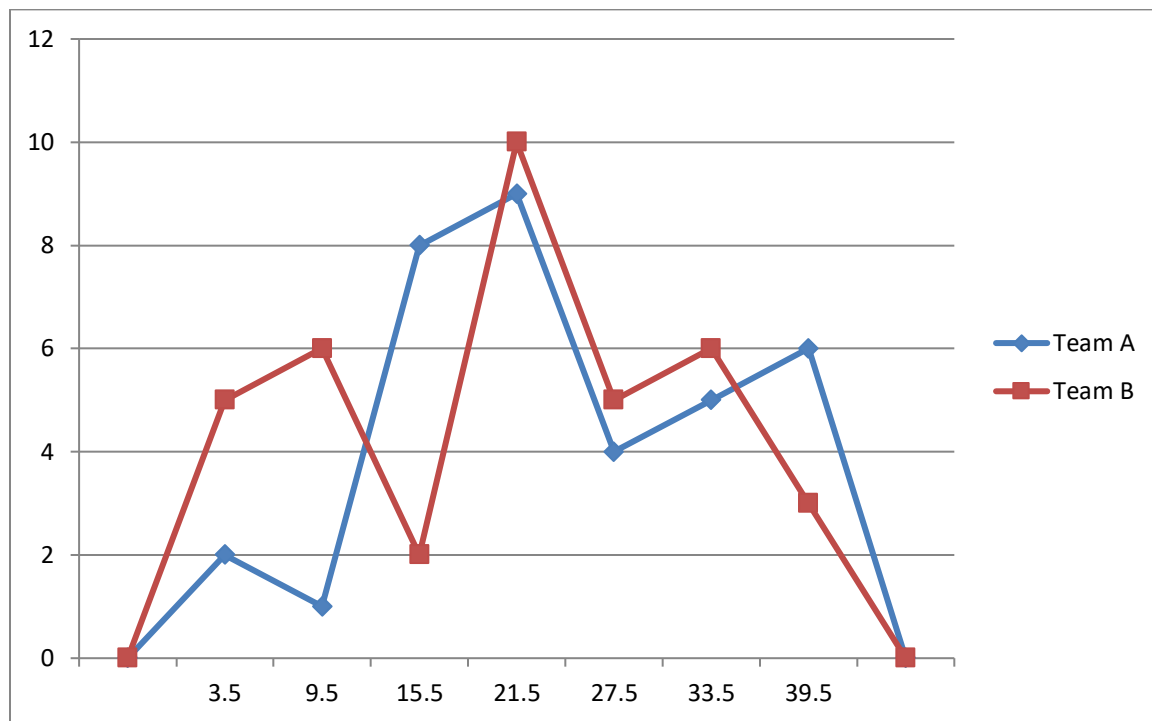
HOMEWORK

EXERCISE − 20.3

QUESTION NUMBERS : 3, 7, 12 and 18
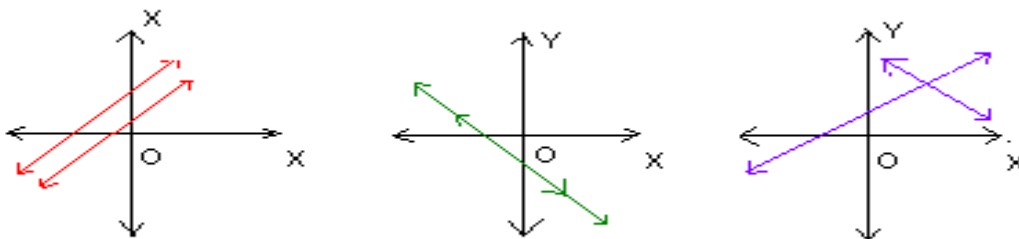
MATHS PRACTICAL

EXPERIMENT NO.4

AIM: To find out **i) Geometrical relationship , ii) properties of coefficient and iii)properties of solution** of the given pair of linear equations.

MATERIAL REQUIRED:

1) Three Graph papers.   2) A ruler& A pencil   3) linear equations in 2 variables in pairs (**).

METHODOLOGY: let $l_1 \equiv a_1x + b_1y + c_1 = 0$ and $l_2 \equiv a_2x + b_2y + c_2 = 0$

are the two pair of linear equations.

If $\dfrac{a_1}{a_2} = \dfrac{b_1}{b_2} = \dfrac{c_1}{c_2}$ then the graph of the given pair of equations are coincident. They are consistent with infinite number of solutions.

If $\dfrac{a_1}{a_2} = \dfrac{b_1}{b_2} \neq \dfrac{c_1}{c_2}$ then the graph of the given pair of equations are parallel. They are inconsistent.

If $\dfrac{a_1}{a_2} \neq \dfrac{b_1}{b_2}$ then the graph of the given pair of equations are intersecting. They are consistent with unique Solution

PROCEDURE:

From the table given below select from each Group one pair of linear equations.**

Group 1	Group 2	Group 3
$2x + y = 1$	$x - 2y = 2$	$3x + 4y = 5$
$4x + 2y = 2$	$2x - 4y = 3$	$4x - 3y = 7$
$6x + 3y = 3$	$3x - 6y = 5$	$x - 4y = 2$
$8x + 4y = 4$	$4x - 8y = 9$	$2x + 5y = 3$

Calculate at least 3 pairs of points corresponding to each linear equation. Plot these points in a graph paper and draw the graph of each pair of linear equations in the same graph paper . Compare the three graphs and also calculate the ratio of coefficients in each pair of equations. Graph paper work must be attached in the lab copy.

OBSERVATION AND CALCULATIONS:

Trial	Equations	Ratio of			Relationship of ratios (equal /unequal)
		Coefficients of x $a_1 : a_2$	Coefficients of y $b_1 : b_2$	Constants $c_1 : c_2$	
Pair 1.	$l_1 \equiv$........ $l_2 \equiv$.......				

Pair 2.	$l_3 \equiv ..\,...$ $l_4 \equiv ..\,...$				
Pair 3	$l_5 \equiv ..\,...$ $l_6 \equiv ..\,...$				

CONCLUSION:

Pair 1) The equations ------------- and--------------are -----(intersecting/parallel/coinciding).

   The ratios of coefficients are----- (equal/unequal).

   There (is/are) --------number of solutions (only one/Infinite/zero)

Pair 2) The equations ------------- and--------------are -----(intersecting/parallel/coinciding).

   The ratios of coefficients are----- (equal/unequal).

   There (is/are) --------number of solutions (only one/Infinite/zero)

Pair 3) The equations ------------- and--------------are -----(intersecting/parallel/coinciding).

   The ratios of coefficients are----- (equal/unequal).

   There (is/are) --------number of solutions (only one/Infinite/zero)

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