CBSE CLASS X

Mathematics Standard (041)

QUESTION PAPER

From previous CBSE Board Exam questions

Code: TYHGW8 **Questions: 61** **Maximum Marks: 148** **Generated: 2026-06-15 13:05**

SELECTIONS USED

Source	Previous-year board
Subject	Mathematics
Lessons	Pair of Linear Equations in Two Variables
Year	2022-2026
Questions selected	61

Composition — Types: 22 MCQ · 13 Short · 10 Very short · 10 Long · 4 Case-based · 2 Assertion–reason

Q1. § 3.1 Introduction · § 3.3.2 Elimination Method **[2]**

The cost of 2 kg apples and 1 kg of grapes on a day was found to be ₹ 320. The cost of 4 kg apples and 2 kg grapes was found to be ₹ 600. If cost of 1 kg of apples and 1 kg of grapes is ₹ x and ₹ y respectively, represent the given situation algebraically as a system of equations and check whether the system so obtained is consistent or not.

Previously asked in: 2025 30/5/1 Q21(a)

◆ **Pair of Linear Equations in Two Variables** · Consistency of a system of linear equations (consistent/inconsistent/dependent) · Forming a system of linear equations from a word problem

Q2. § 3.1 Introduction · § 3.3.2 Elimination Method **[1]**

3 chairs and 1 table cost ₹ 900; whereas 5 chairs and 3 tables cost ₹ 2,100. If the cost of 1 chair is ₹ x and the cost of 1 table is ₹ y, then the situation can be represented algebraically as

A $3x + y = 900, 3x + 5y = 2100$
B $x + 3y = 900, 3x + 5y = 2100$
C $3x + y = 900, 5x + 3y = 2100$
D $x + 3y = 900, 5x + 3y = 2100$

Previously asked in: 2023 30/6/1 Q13

◆ **Pair of Linear Equations in Two Variables** · Formulating a Pair of Linear Equations from a Word Problem

Q3. **[3]**

Half of the difference between two numbers is 2. The sum of the greater number and twice the smaller number is 13. Find the numbers.

Previously asked in: 2023 30/1/1 Q26

◆ **Pair of Linear Equations in Two Variables** · Forming and Solving a Pair of Linear Equations from Word Problems

Q4. § 3.1 Introduction **[3]**

Two people are 16 km apart on a straight road. They start walking at the same time. If they walk towards each other with different speeds, they will meet in 2 hours. Had they walked in the same direction with same speeds as before, they would have met in 8 hours. Find their walking speeds.

Previously asked in: 2023 30/5/1 Q29

◆ **Pair of Linear Equations in Two Variables** | Word Problems: Speed-Distance-Time using Pair of Linear Equations

Q5. § 3.1 Introduction **[4]**

> Essel World is one of India's largest amusement parks that offers a diverse range of thrilling rides, water attractions and entertainment options for visitors of all ages. The park is known for its iconic "Water Kingdom" section, making it a popular destination for family outings and fun-filled adventure. The ticket charges for the park are ₹150 per child and ₹250 per adult.
>
> On a day, the cashier of the park found that 300 tickets were sold and an amount of ₹55,000 was collected.

Based on the above, answer the following questions :

(i) If the number of children visited be x and the number of adults visited be y, then write the given situation algebraically. [1]

(ii) How many children/adults visited the amusement park that day? [2]

(iii) How much amount will be collected if 250 children and 100 adults visit the amusement park? [1]

Previously asked in: 2024 30/5/1 Q36

◆ **Pair of Linear Equations in Two Variables** | Formulating and Solving a Pair of Linear Equations in Two Variables from a Word Problem

Q6. § 3.1 Introduction **[5]**

Tara scored 40 marks in a test, getting 3 marks for each right answer and losing 1 mark for each wrong answer. Had 4 marks been awarded for each correct answer and 2 marks been deducted for each wrong answer, then Tara would have scored 50 marks. Assuming that Tara attempted all questions, find the total number of questions in the test.

Previously asked in: 2024 30/2/1 Q32(b) (OR-2)

◆ **Pair of Linear Equations in Two Variables** | Solving word problems using pair of linear equations in two variables

Q7. § 3.1 Introduction | § 3.3.2 Elimination Method **[5]**

Vijay invested certain amounts of money in two schemes A and B, which offer interest at the rate of 8% per annum and 9% per annum, respectively. He received ₹1,860 as the total annual interest. However, had he interchanged the amounts of investments in the two schemes, he would have received ₹20 more as annual interest. How much money did he invest in each scheme?

Previously asked in: 2025 30/1/1 Q32

◆ **Pair of Linear Equations in Two Variables** | Formulating and Solving a Pair of Linear Equations – Word Problems (Simple Interest)

Q8. § 3.1 Introduction **[3]**

In a class test, Veer scored 6 more than twice as many marks as Kevin scored. If one of them had scored 4 more marks, their total score would have been 40. Find the marks obtained by Veer and Kevin.

Previously asked in: 2026 30/4/1 Q26 (OR-1)

◆ **Pair of Linear Equations in Two Variables** | Formulating and Solving a Pair of Linear Equations from Word Problems

Q9. § 3.2 Graphical Method of Solution of a Pair of Linear Equations § 3.3 Algebraic Methods of Solving a Pair of Linear Equations § 3.4 Summary **[1]**

In the given figure, graphs of two linear equations are shown. The pair of these linear equations is :

(a) consistent with unique solution.
(b) consistent with infinitely many solutions.
(c) inconsistent.
(d) inconsistent but can be made consistent by extending these lines.

Previously asked in: 2024 30/1/1 Q18

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q10. § 3.3 Algebraic Methods of Solving a Pair of Linear Equations **[3]**

Solve the system of linear equations: $x = 4$ and $3x - 2y = 6$ graphically.

Previously asked in: 2026 30/5/1 Q30

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q11. § 3.1 Introduction § 3.3.2 Elimination Method **[4]**

> A coaching institute of Mathematics conducts classes in two batches I and II and fees for rich and poor children are different. In batch I, there are 20 poor and 5 rich children, whereas in batch II, there are 5 poor and 25 rich children. The total monthly collection of fees from batch I is ₹ 9000 and from batch II is ₹ 26,000. Assume that each poor child pays ₹ x per month and each rich child pays ₹ y per month.

Based on the above information, answer the following questions:

(i) Represent the information given above in terms of x and y. [1]

(ii) Find the monthly fee paid by a poor child. [2]

(iii) If there are 10 poor and 20 rich children in batch II, what is the total monthly collection of fees from batch II? [1]

Previously asked in: 2023 30/6/1 Q36

◆ **Pair of Linear Equations in Two Variables** Application of linear equations to find total collection Formulating a Pair of Linear Equations from a Word Problem Solving a pair of linear equations to find unknown values

Q12. § 3.2 Graphical Method of Solution of a Pair of Linear Equations § 3.3 Algebraic Methods of Solving a Pair of Linear Equations § 3.4 Summary **[1]**

The point of intersection of the line represented by $3x - y = 3$ and y-axis is given by

A $(0, -3)$
B $(0, 3)$
C $(2, 0)$
D $(-2, 0)$

Previously asked in: 2023 30/6/1 Q4

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q13. § 3.3 Algebraic Methods of Solving a Pair of Linear Equations § 3.4 Summary **[2]**

Using graphical method, find whether following system of linear equations is consistent or not : $x = 0$ and $y = -7$

Previously asked in: 2023 30/1/1 Q21(b) (OR-2)

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q14. § 3.3 Algebraic Methods of Solving a Pair of Linear Equations **[2]**

Solve the pair of equations $x = 3$ and $y = -4$ graphically.

Previously asked in: 2023 30/1/1 Q21(a) (OR-1)

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q15. § 3.2 Graphical Method of Solution of a Pair of Linear Equations § 3.4 Summary **[1]**

The value of k for which the pair of equations $kx = y + 2$ and $6x = 2y + 3$ has infinitely many solutions,

A is $k = 3$
B does not exist
C is $k = -3$
D is $k = 4$

Previously asked in: 2023 30/1/1 Q2

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q16. § 3.2 Graphical Method of Solution of a Pair of Linear Equations § 3.4 Summary **[3]**

Check whether the following pair of equations is consistent or not. If consistent, solve graphically
$x + 3y = 6$
$3y - 2x = -12$

Previously asked in: 2025 30/6/1 Q28

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q17. **[2]**

In a pair of supplementary angles, the greater angle exceeds the smaller by 50°. Express the given situation as a system of linear equations in two variables and hence obtain the measure of each angle.

Previously asked in: 2025 30/6/1 Q21(b)

◆ **Pair of Linear Equations in Two Variables**
Forming and solving a system of linear equations from geometric conditions (supplementary angles)

Q18. § 3.2 Graphical Method of Solution of a Pair of Linear Equations **[1]**

The system of equations $2x + 1 = 0$ and $3y - 5 = 0$ has

A unique solution
B two solutions
C no solution
D infinite number of solutions

Previously asked in: 2025 30/6/1 Q17

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q19. § 3.3 Algebraic Methods of Solving a Pair of Linear Equations § 3.4 Summary **[3]**

Solve the following system of equations graphically : $2x - y - 2 = 0, -4x + y + 4 = 0$. Also, find the absolute difference between the ordinates of the points where given lines cut y – axis.

Previously asked in: 2025 30/5/1 Q28

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q20. § 3.3 Algebraic Methods of Solving a Pair of Linear Equations **[5]**

Solve the following system of equations graphically : $x - 2y = 3, 3x - 8y = 7$.

Previously asked in: 2026 30/3/1 Q34(a)

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q21. § 3.2 Graphical Method of Solution of a Pair of Linear Equations § 3.3.1 Substitution Method § 3.4 Summary **[1]**

Equation of another line parallel to the line represented by $2x - 6y = 7$ is :

A $y = 3x - 7$
B $2x = 9 - 6y$
C $x - 3y = 7$
D $x = \frac{7}{2} - 3y$

Previously asked in: 2026 30/3/1 Q8

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q22. § 3.1 Introduction § 3.2 Graphical Method of Solution of a Pair of Linear Equations **[5]**

Aarush bought 2 pencils and 3 chocolates for ₹ 11 and Tanish bought 1 pencil and 2 chocolates for ₹ 7 from the same shop. Represent this situation in the form of a pair of linear equations. Find the price of 1 pencil and 1 chocolate, graphically.

Previously asked in: 2026 30/2/1 Q32

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q23. § 3.2 Graphical Method of Solution of a Pair of Linear Equations § 3.4 Summary **[1]**

If the pair of linear equations : $a_1x + b_1y + c_1 = 0$ and $a_2x + b_2y + c_2 = 0$ is consistent and dependent, then

A $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$
B $\frac{a_1}{a_2} \neq \frac{b_1}{b_2} = \frac{c_1}{c_2}$
C $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$
D $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$

Previously asked in: 2026 30/2/1 Q6

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q24. § 3.3 Algebraic Methods of Solving a Pair of Linear Equations § 3.3.1 Substitution Method **[5]**

Determine graphically, the coordinates of vertices of a triangle whose equations are $2x - 3y + 6 = 0$; $2x + 3y - 18 = 0$ and $x = 0$. Also, find the area of this triangle.

Previously asked in: 2026 30/1/1 Q32

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q25. § 3.2 Graphical Method of Solution of a Pair of Linear Equations § 3.4 Summary **[1]**

If a pair of linear equations in two variables is represented by two coincident lines, then the pair of equations has :

(a) a unique solution
(b) two solutions
(c) no solution
(d) an infinite number of solutions

Previously asked in: 2026 30/1/1 Q5

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q26. § 3.2 Graphical Method of Solution of a Pair of Linear Equations **[1]**

The pair of equations $ax + 2y = 9$ and $3x + by = 18$ represent parallel lines, where a, b are integers, if :

(a) $a = b$
(b) $3a = 2b$
(c) $2a = 3b$
(d) $ab = 6$

Previously asked in: 2023 30/5/1 Q2

◆ Pair of Linear Equations in Two Variables | 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q27. § 3.2 Graphical Method of Solution of a Pair of Linear Equations **[1]**

The pair of linear equations $2x = 5y + 6$ and $15y = 6x - 18$ represents two lines which are :

(a) intersecting
(b) parallel
(c) coincident
(d) either intersecting or parallel

Previously asked in: 2023 30/4/1 Q7

◆ Pair of Linear Equations in Two Variables | 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q28. § 3.2 Graphical Method of Solution of a Pair of Linear Equations | § 3.4 Summary **[1]**

The pair of equations $x = a$ and $y = b$ graphically represents lines which are:

(a) parallel
(b) intersecting at (b, a)
(c) coincident
(d) intersecting at (a, b)

Previously asked in: 2023 30/2/1 Q8

◆ Pair of Linear Equations in Two Variables | 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q29. § 3.2 Graphical Method of Solution of a Pair of Linear Equations **[1]**

If the pair of equations $3x - y + 8 = 0$ and $6x - ry + 16 = 0$ represent coincident lines, then the value of r is:

(a) $\frac{1}{2}$
(b) $-\frac{1}{2}$
(c) 2
(d) -2

Previously asked in: 2023 30/2/1 Q6

◆ Pair of Linear Equations in Two Variables | 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q30. § 3.2 Graphical Method of Solution of a Pair of Linear Equations **[1]**

Which out of the following type of straight lines will be represented by the system of equations $3x + 4y = 5$ and $6x + 8y = 7$?

A Parallel
B Intersecting
C Coincident
D Perpendicular to each other

Previously asked in: 2024 30/5/1 Q4

◆ Pair of Linear Equations in Two Variables | 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q31. § 3.2 Graphical Method of Solution of a Pair of Linear Equations § 3.4 Summary **[1]**

Two lines are given to be parallel. The equation of one of these lines is $5x - 3y = 2$. The equation of the second line can be :

A $-15x - 9y = 5$
B $15x + 9y = 5$
C $9x - 15y = 6$
D $-15x + 9y = 5$

Previously asked in: 2024 30/4/1 Q11

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q32. § 3.3 Algebraic Methods of Solving a Pair of Linear Equations **[3]**

Solve the following system of linear equations graphically :

$$x - y + 1 = 0$$

$$x + y = 5$$

Previously asked in: 2024 30/3/1 Q28

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q33. § 3.2 Graphical Method of Solution of a Pair of Linear Equations § 3.3 Algebraic Methods of Solving a Pair of Linear Equations § 3.4 Summary **[1]**

The pair of linear equations $x + 2y + 5 = 0$ and $-3x = 6y - 1$ has

A unique solution
B exactly two solutions
C infinitely many solutions
D no solution

Previously asked in: 2024 30/3/1 Q1

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q34. § 3.3 Algebraic Methods of Solving a Pair of Linear Equations **[5]**

Using graphical method, solve the following system of equations:

$$3x + y + 4 = 0 \quad \text{and} \quad 3x - y + 2 = 0$$

Previously asked in: 2024 30/2/1 Q32(a) (OR-1)

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q35. § 3.2 Graphical Method of Solution of a Pair of Linear Equations **[1]**

The value of k for which the system of equations $3x - y + 8 = 0$ and $6x - ky + 16 = 0$ has infinitely many solutions, is

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

Previously asked in: 2024 30/2/1 Q1

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q36. § 3.2 Graphical Method of Solution of a Pair of Linear Equations § 3.4 Summary **[1]**

The line represented by the equation $x - y = 0$ is :

A parallel to x-axis
B parallel to y-axis
C passing through the origin
D passing through the point $(3, 2)$

Previously asked in: 2025 30/2/1 Q14

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q37. § 3.3 Algebraic Methods of Solving a Pair of Linear Equations **[3]**

Solve the linear equations $3x + y = 14$ and $y = 2$ graphically.

Previously asked in: 2026 30/4/1 Q26 (OR-2)

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q38. § 3.2 Graphical Method of Solution of a Pair of Linear Equations § 3.3.1 Substitution Method § 3.4 Summary **[1]**

The value of k for which the system of linear equations $\frac{x}{2} - \frac{y}{3} = 5$ and $2x + ky = 7$ is inconsistent, is

A $\frac{3}{4}$
B $\frac{4}{3}$
C $\frac{1}{3}$
D 3

Previously asked in: 2026 30/4/1 Q8

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations

Q39. § 3.1 Introduction **[3]**

Rehana went to a bank to withdraw ₹2,000. She asked the cashier to give her ₹50 and ₹100 notes only. Rehana got 25 notes in all. Find how many notes of ₹50 and ₹100 did she receive.

Previously asked in: 2024 30/4/1 Q28

◆ **Pair of Linear Equations in Two Variables** 3.3.2 Elimination Method

Q40. **[3]**

Three years ago, Rashmi was thrice as old as Nazma. Ten years later, Rashmi will be twice as old as Nazma. How old are Rashmi and Nazma now ?

Previously asked in: 2024 30/1/1 Q29

◆ **Pair of Linear Equations in Two Variables** Forming and Solving Linear Equations from Age-Related Word Problems

Q41. § 3.3.1 Substitution Method **[4]**

A 2-digit number is such that the product of its digits is 24. If 18 is subtracted from the number, the digits interchange their places. Find the number.

Previously asked in: 2022 30/2/1 Q12(a)

◆ **Pair of Linear Equations in Two Variables** 2-digit number problems using pair of linear equations

Q42. **[5]**

A 2-digit number is seven times the sum of its digits and two (2) more than 5 times the product of its digits. Find the number.

Previously asked in: 2025 30/5/1 Q32(a)

◆ **Pair of Linear Equations in Two Variables**

Forming and solving a pair of linear/non-linear equations from word problems involving digits of a number

Q43. § 3.1 Introduction **[4]**

> Two schools 'P' and 'Q' decided to award prizes to their students for two games of Hockey ₹ x per student and Cricket ₹ y per student. School 'P' decided to award a total of ₹ 9,500 for the two games to 5 and 4 students respectively; while school 'Q' decided to award ₹ 7,370 for the two games to 4 and 3 students respectively.

Based on the above information, answer the following questions :

(i) Represent the following information algebraically (in terms of x and y). [1]

(ii) What is the prize amount for hockey ? OR Prize amount on which game is more and by how much ? [2]

(iii) What will be the total prize amount if there are 2 students each from two games ? [1]

Previously asked in: 2023 30/4/1 Q36

◆ **Pair of Linear Equations in Two Variables** Application of solution of linear equations

Formulating a Pair of Linear Equations from a Word Problem Solving a pair of linear equations (finding values of variables)

Q44. **[2]**

Sum of two numbers is 105 and their difference is 45. Find the numbers.

Previously asked in: 2024 30/3/1 Q22(b) (OR-2)

◆ **Pair of Linear Equations in Two Variables** Forming and Solving a Pair of Linear Equations (Sum and Difference Problems)

Q45. § 3.2 Graphical Method of Solution of a Pair of Linear Equations § 3.3.1 Substitution Method **[2]**

Solve the following system of linear equations $7x - 2y = 5$ and $8x + 7y = 15$ and verify your answer.

Previously asked in: 2024 30/1/1 Q21

◆ **Pair of Linear Equations in Two Variables** 3.3 Algebraic Methods of Solving a Pair of Linear Equations

Q46. **[5]**

Venkat can row a boat in still water at the speed of 12 km/h. He ferries tourists 15 km upstream and 18 km downstream in 3 hours. Find the speed of the stream.

Previously asked in: 2026 30/5/1 Q32

◆ **Pair of Linear Equations in Two Variables** Boat and Stream Problems using Pair of Linear Equations

Q47. § 3.2 Graphical Method of Solution of a Pair of Linear Equations § 3.4 Summary **[1]**

Directions: Two statements are given, one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer from the codes (A), (B), (C) and (D) as given below.

Assertion (A) : The system of linear equations $3x - 5y + 7 = 0$ and $-6x + 10y + 14 = 0$ is inconsistent.

Reason (R) : When two linear equations don't have unique solution, they always represent parallel lines.

(A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).
(B) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).
(C) Assertion (A) is true, but Reason (R) is false.
(D) Assertion (A) is false, but Reason (R) is true.

Previously asked in: 2026 30/5/1 Q19

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations 3.3 Algebraic Methods of Solving a Pair of Linear Equations

Q48. § 3.3 Algebraic Methods of Solving a Pair of Linear Equations § 3.3.2 Elimination Method **[2]**

Solve the following pair of equations algebraically:
$101x + 102y = 304$
$102x + 101y = 305$

Previously asked in: 2025 30/6/1 Q21(a)

◆ **Pair of Linear Equations in Two Variables** 3.3 Algebraic Methods of Solving a Pair of Linear Equations

Q49. § 3.3 Algebraic Methods of Solving a Pair of Linear Equations **[2]**

Solve for x and y : $\sqrt{2}\,x + \sqrt{3}\,y = 5$ and $\sqrt{3}\,x - \sqrt{8}\,y = -\sqrt{6}$

Previously asked in: 2025 30/5/1 Q21(b)

◆ **Pair of Linear Equations in Two Variables** 3.3 Algebraic Methods of Solving a Pair of Linear Equations

Q50. § 3.3.2 Elimination Method **[3]**

The monthly incomes of two persons are in the ratio 9 : 7 and their monthly expenditures are in the ratio 4 : 3. If each saved ₹ 5,000, express the given situation algebraically as a system of linear equations in two variables. Hence, find their respective monthly incomes.

Previously asked in: 2025 30/4/1 Q27

◆ **Pair of Linear Equations in Two Variables** 3.3 Algebraic Methods of Solving a Pair of Linear Equations

Q51. § 3.3.1 Substitution Method § 3.3.2 Elimination Method **[2]**

Solve the following system of equations algebraically : $30x + 44y = 10; 40x + 55y = 13$

Previously asked in: 2025 30/4/1 Q21

◆ **Pair of Linear Equations in Two Variables** 3.3 Algebraic Methods of Solving a Pair of Linear Equations

Q52. § 3.2 Graphical Method of Solution of a Pair of Linear Equations **[1]**

The value of 'p' for which the equations $px + 3y = p - 3, 12x + py = p$ has infinitely many solutions is :

(a) -6 only
(b) 6 only
(c) ± 6
(d) Any real number except ± 6

Previously asked in: 2025 30/4/1 Q6

◆ **Pair of Linear Equations in Two Variables** 3.3 Algebraic Methods of Solving a Pair of Linear Equations

Q53. § 3.2 Graphical Method of Solution of a Pair of Linear Equations § 3.4 Summary **[5]**

Five years ago, Adil was thrice as old as Bharat. Ten years later Adil shall be twice as old as Bharat. To know the present ages of Adil and Bharat : (i) form the linear equations representing the above information. (ii) show that the system of equations is consistent with unique solution. (iii) find the present ages of Adil and Bharat.

Previously asked in: 2026 30/3/1 Q34(b)

◆ **Pair of Linear Equations in Two Variables** 3.2 Graphical Method of Solution of a Pair of Linear Equations 3.3 Algebraic Methods of Solving a Pair of Linear Equations

Q54. § 3.3 Algebraic Methods of Solving a Pair of Linear Equations § 3.3.1 Substitution Method § 3.3.2 Elimination Method **[3]**

If $217x + 131y = 913$ and $131x + 217y = 827$, then solve the equations for the values of x and y.

Previously asked in: 2023 30/2/1 Q30(b) (OR-2)

◆ **Pair of Linear Equations in Two Variables** 3.3 Algebraic Methods of Solving a Pair of Linear Equations

Q55. § 3.2 Graphical Method of Solution of a Pair of Linear Equations § 3.3 Algebraic Methods of Solving a Pair of Linear Equations § 3.3.1 Substitution Method **[3]**

If the system of linear equations $2x + 3y = 7$ and $2ax + (a + b)y = 28$ has infinitely many solutions, then find the values of a and b.

Previously asked in: 2023 30/2/1 Q30(a) (OR-1)

◆ **Pair of Linear Equations in Two Variables** 3.3 Algebraic Methods of Solving a Pair of Linear Equations

Q56. § 3.4 Summary **[1]**

If $ax + by = a^2 - b^2$ and $bx + ay = 0$, then the value of $x + y$ is :

A $a^2 - b^2$
B $a + b$
C $a - b$
D $a^2 + b^2$

Previously asked in: 2024 30/4/1 Q1

◆ **Pair of Linear Equations in Two Variables** 3.3 Algebraic Methods of Solving a Pair of Linear Equations

Q57. § 3.3.1 Substitution Method § 3.3.2 Elimination Method **[2]**

If $2x + y = 13$ and $4x - y = 17$, find the value of $(x - y)$.

Previously asked in: 2024 30/3/1 Q22(a) (OR-1)

◆ **Pair of Linear Equations in Two Variables** 3.3 Algebraic Methods of Solving a Pair of Linear Equations

Q58. § 3.2 Graphical Method of Solution of a Pair of Linear Equations § 3.3.2 Elimination Method **[1]**

The value of k for which the system of equations $6x + y = 3k$ and $36x + 6y = 3$ have infinitely many solutions is:

A 6
B $\frac{1}{6}$
C $\frac{1}{3}$
D 3

Previously asked in: 2025 30/3/1 Q3

◆ **Pair of Linear Equations in Two Variables** 3.3 Algebraic Methods of Solving a Pair of Linear Equations

Q59. § 3.1 Introduction **[4]**

> A school is organizing a grand cultural event to show the talent of its students. To accommodate the guests, the school plans to rent chairs and tables from a local supplier. It finds that rent for each chair is ₹50 and for each table is ₹200. The school spends ₹30,000 for renting the chairs and tables. Also, the total number of items (chairs and tables) rented are 300.

Based on the above information, answer the following questions :

(i) Write down the pair of linear equations representing the given information. [1]

(ii) Find the number of chairs and number of tables rented by the school. [2]

(iii) What is maximum number of tables that can be rented in ₹30,000 if no chairs are rented? [1]

Previously asked in: 2025 30/2/1 Q36

◆ **Pair of Linear Equations in Two Variables** | 3.3 Algebraic Methods of Solving a Pair of Linear Equations | Formulating a Pair of Linear Equations from a Word Problem | Interpreting Solutions under Constraints (no chairs rented)

Q60. § 3.2 Graphical Method of Solution of a Pair of Linear Equations **[1]**

Assertion (A) : The pair of linear equations $px + 3y + 59 = 0$ and $2x + 6y + 118 = 0$ will have infinitely many solutions if $p = 1$.

Reason (R) : If the pair of linear equations $px + 3y + 19 = 0$ and $2x + 6y + 157 = 0$ has a unique solution, then $p \neq 1$.

Select the correct answer from the codes (A), (B), (C) and (D) given below.

A Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).
B Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).
C Assertion (A) is true, but Reason (R) is false.
D Assertion (A) is false, but Reason (R) is true.

Previously asked in: 2025 30/2/1 Q20

◆ **Pair of Linear Equations in Two Variables** | 3.2 Graphical Method of Solution of a Pair of Linear Equations | 3.3 Algebraic Methods of Solving a Pair of Linear Equations

Q61. § 3.2 Graphical Method of Solution of a Pair of Linear Equations | § 3.4 Summary **[1]**

If $x = 1$ and $y = 2$ is a solution of the pair of linear equations $2x - 3y + a = 0$ and $2x + 3y - b = 0$, then:

A $a = 2b$
B $2a = b$
C $a + 2b = 0$
D $2a + b = 0$

Previously asked in: 2025 30/1/1 Q2

◆ **Pair of Linear Equations in Two Variables** | 3.3 Algebraic Methods of Solving a Pair of Linear Equations

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