MATHS

BOOKS - MBD

PAIR OF LINEAR EQUATIONS IN TWO VARIABLES

Example

1. Aftab tells his daughter, “Seven years ago, I was seven times as old as you were then. Also, three years from now, Ishall be three times as old as you will be” (Isn’t this

interesting ?). Represent this situation algebraically and graphically

Watch Video Solution

2. Form the pair of linear equations in the following problems, and find their solutions graphically. : 10 students of Class X took part in a Mathematics quiz. If the number of girls is 4 more than the number of boys, find the number of boys and girls who took part in the quiz.

Watch Video Solution

3. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}$ and $\frac{c_1}{c_2}$ find out whether the lines representing the following pairs of

linear equations intersect at point, are parallel or coincident : 5x-4y+8=0 7x+6y-9=0 .

Watch Video Solution

4. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}$ and $\frac{c_1}{c_2}$ find out whether the lines representing the following pairs of linear equations intersect at point, are parallel or coincident : 9x+3y+12=0 18x+6y+24=0

Watch Video Solution

5. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}$ and $\frac{c_1}{c_2}$ find out whether the lines representing the following pairs of

linear equations intersect at point, are parallel or coincident : 6x-3y+10=0 2x-y+9 =0 .

Watch Video Solution

6. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}$ and $\frac{c_1}{c_2}$ find out whether the lines representing the following pairs of linear equations are consistent , or inconsistent . : 3x+2y=5, 2x-3y=7 .

Watch Video Solution

7. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}$ and $\frac{c_1}{c_2}$ find out whether the lines representing the following pairs of

linear equations are consistent , or inconsistent . : 2x-3y=8, 4x-6y=9 .

Watch Video Solution

8. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}$ and $\frac{c_1}{c_2}$ find out whether the lines representing the following pairs of linear equations are consistent , or inconsistent . : 3/2x+5/3y=7,9x-10y=14 .

Watch Video Solution

9. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}$ and $\frac{c_1}{c_2}$ find out whether the lines representing the following pairs of

linear equations are consistent , or inconsistent . : 5x-3y=11, -10x+6y=-22.

Watch Video Solution

10. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}$ and $\frac{c_1}{c_2}$ find out whether the lines representing the following pairs of linear equations are consistent , or inconsistent . : 4/3x+2y=8,2x+3y=12.

Watch Video Solution

11. Which of the following pairs of linear equations are consistent/inconsistent ? If consistent, obtain the solution graphically. : x+y=5, 2x+2y=10 .

Watch Video Solution

12. Which of the following pairs of linear equations are consistent/inconsistent ? If consistent, obtain the solution graphically. : $x-y=8$, $3x-3y=16$.

Watch Video Solution

13. Which of the following pairs of linear equations are consistent/inconsistent ? If consistent, obtain the solution graphically. : $2x+y-6=0$, $4x-2y-4=0$.

Watch Video Solution

14. Which of the following pairs of linear equations are consistent/inconsistent ? If consistent, obtain the solution graphically. : $2x-2y-2=0, 4x-4y-5=0$.

Watch Video Solution

15. Half the perimeter of a rectangular garden, whose length is 4 m more than its width is 36 m. Find the dimensions of the garden.

Watch Video Solution

16. Given the linear equation $2x+3y-8 = 0$, write another linear equation in two variables such that the geometrical

representation of the pair so formed is : intersecting lines

.

Watch Video Solution

17. Given the linear equation $2x+3y-8 = 0$, write another linear equation in two variables such that the geometrical representation of the pair so formed is : parallel lines .

Watch Video Solution

18. Given the linear equation $2x+3y-8 = 0$, write another linear equation in two variables such that the geometrical representation of the pair so formed is : coincident lines .

Watch Video Solution

Watch Video Solution

19. Draw the graphs of the equations x -y + 1 = 0 and 3x + 2y - 12 = 0. Determine the coordinates of the vertices of the triangle formed by these lines and the x-axis and shade the triangular region.

Watch Video Solution

20. Solve the following pair of linear equations by the substitution method : x+y=14 , x-y=4.

Watch Video Solution

21. Solve the following pair of linear equations by the substitution method : $s-t=3$, $s/3+t/2=6$.

Watch Video Solution

22. Solve the following pair of linear equations by the substitution method : $3x-y=3$, $9x-3y=9$.

Watch Video Solution

23. Solve the following pair of linear equations by the substitution method : $0.2x+0.3y=1.3$, $0.4x+0.5y=2.3$.

Watch Video Solution

24. Solve the following pair of linear equations by the substitution method : $\sqrt{2}x + \sqrt{3}y = 0$, $\sqrt{3}x - \sqrt{8}y = 0$.

Watch Video Solution

25. Solve the following pair of linear equations by the substitution method : 3x /2-5y /3= -2 , x/3+y/2=13/6 .

Watch Video Solution

26. Solve the following pair of equations by the elimination method and the substitution method. x+y = 5 and 2x-3y=4 .

Watch Video Solution

27. Solve the following pair of equations by the elimination method and the substitution method. $3x+4y=10$ and $2x-2y=2$.

Watch Video Solution

28. Solve the following pair of equations by the elimination method and the substitution method. $3x-5y-4=0$ and $9x= 2y+7$.

Watch Video Solution

29. Solve the following pair of equations by the elimination method and the substitution method. $x/2 + (2y)/3 = -1$ and $x - y/3 = 3$.

Watch Video Solution

30. Form the pair of linear equations in the following problems, and find their solutions (if they exist) by the elimination method : If we add 1 to the numerator and subtract 1 from the denominator, a fraction reduces to 1. It becomes 1/2 if we only add 1 to the denominator. What is the fraction?

Watch Video Solution

31. Form the pair of linear equations in the following problems, and find their solutions (if they exist) by the elimination method : Five years ago, Nuri was thrice as old as Sonu. Ten years later, Nuri will be twice as old as Sonu. How old are Nuri and Sonu ?

Watch Video Solution

32. Form the pair of linear equations in the following problems, and find their solutions (if they exist) by the elimination method : The sum of the digits of a two-digit number is 9. Also, nine times this number is twice the number obtained by reversing the order of the number. Find the number.

Watch Video Solution

33. Form the pair of linear equations in the following problems, and find their solutions (if they exist) by the elimination method : Meena went to a bank to withdraw Rs 2000. She asked the cashier to give her Rs 50 and Rs 100 notes only. Meena got 25 notes in all. Find how many notes of Rs 50 and Rs 100 she received.

Watch Video Solution

34. Form the pair of linear equations in the following problems, and find their solutions (if they exist) by the elimination method : A lending library has a fixed charge for the first three days and an additional charge for each

day there after. Saritha paid Rs 27 for a book kept for seven days, while Susy paid ' Rs 21 for the book she kept for five days. Find the fixed charge and the charge for each extra day.

Watch Video Solution

35. Which of the following pairs of linear equations has unique solution, no solution, or infinitely many solutions. In case there is a unique solution, find it by using cross multiplication method. : x-3y-3=0 , 3x-9y-2=0.

Watch Video Solution

36. Which of the following pairs of linear equations has unique solution, no solution, or infinitely many solutions. In case there is a unique solution, find it by using cross multiplication method. : $2x+y=5$, $3x+2y=8$.

Watch Video Solution

37. Which of the following pairs of linear equations has unique solution, no solution, or infinitely many solutions. In case there is a unique solution, find it by using cross multiplication method. : - $3x-5y=20$, $6x-10y=40$.

Watch Video Solution

38. Which of the following pairs of linear equations has unique solution, no solution, or infinitely many solutions. In case there is a unique solution, find it by using cross multiplication method. : - x-3y-7=0 , 3x-3y-15=0

Watch Video Solution

39. For which values of a and b does the following pair of linear equations have an infinite number of solutions ? 2x + 3y =7 , (a - b) x + (a + b) y = 3a + b - 2 .

Watch Video Solution

40. For which value of k will the following pair of linear equations have no solution ? $3x + y = 1$, $(2k - 1) x + (k- 1) y = 2k + 1$.

Watch Video Solution

41. Solve the following pair of linear equations by the substitution and cross multiplication methods : $8x + 5y = 9$, $3x + 2y = 4$.

Watch Video Solution

42. Form the pair of linear equations In the following problems and find their solutions (if they exist) by any

algebraic method. :- A part of monthly hostel charges is fixed and the remaining depends on the number of days one has taken food in the mess. When a student A takes food for 20 days she has to pay ? 1000 as hostel charges whereas a student B, who takes food for 26 days, pays ? 1180 as hostel charges. Find the fixed charges and the cost of food per day.

Watch Video Solution

43. Form the pair of linear equations In the following problems and find their solutions (if they exist) by any algebraic method. :- A fraction becomes 1/3 when 1 is subtracted from the numerator and it becomes 1/4 when 8 is added to its denominator. Find the fraction.

Watch Video Solution

44. Form the pair of linear equations In the following problems and find their solutions (if they exist) by any algebraic method. :- Yash 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 incorrect answer, then Yash would have scored 50 marks. How many questions were there in the test ?

Watch Video Solution

45. Form the pair of linear equations In the following problems and find their solutions (if they exist) by any algebraic method. :- Places A and B are 100 km apart on a highway. One car starts from A and another from B at the same time. If the cars travel in the same direction at different speeds they meet in 5 hours. If they travel towards each other, they meet in 1 hour. What are the speeds of the two cars ?

Watch Video Solution

46. Form the pair of linear equations In the following problems and find their solutions (if they exist) by any algebraic method. :- The area of a rectangle gets reduced

by 9 square units if its length is reduced by 5 units and breadth is increased by 3 units. If we increase the length by 3 units and the breadth by 2 units, the area increases by 67 units. Find the dimensions of the rectangle.

Watch Video Solution

47. Solve the following pairs of equations by reducing them to a pair of linear equations :- 2/2x + 1/3y =2, 1/3x + 1/2y = 13/6.

Watch Video Solution

48. Solve the following pairs of equations by reducing them to a pair of linear equations :- $\frac{2}{\sqrt{x}} + \frac{3}{\sqrt{y}} = 2$,

$\frac{4}{\sqrt{x}} - \frac{9}{\sqrt{y}} = -1$.

Watch Video Solution

49. Solve the following pairs of equations by reducing them to a pair of linear equations :- 4/x+3y=14 , 3/x-4y=23 .

Watch Video Solution

50. Solve the following pairs of equations by reducing them to a pair of linear equations :- 5/(x-1)+1/(y-2)=2 , 6/(x-1)-3/(y-2) =1 .

Watch Video Solution

51. Solve the following pairs of equations by reducing them to a pair of linear equations :- $(7x-2y)/xy=5$, $(8x+7y)/xy=15$.

Watch Video Solution

52. Solve the following pairs of equations by reducing them to a pair of linear equations :- $6x+3y=6xy$, $2x+4y=5xy$.

Watch Video Solution

53. Solve the following pairs of equations by reducing them to a pair of linear equations :- $10/(x+y)+2/(x-y)=4$,

15/(x+y)-5/(x-y)=-2 .

Watch Video Solution

54. Formulate the following problems as a pair of equations, and hence find their solutions. :- Ritu can row downstream 20 km in 2 hours, and upstream 4 km in 2 hours. Find her speed of rowing in still water and the speed of the current.

Watch Video Solution

55. Formulate the following problems as a pair of equations, and hence find their solutions. :- 2 women and 5 men can together finish an embroidery work in 4 days,

while 3 women and 6 men can finish it in 3 days. Find the time taken by 1 woman alone to finish the work, and also that taken by.l man alone.

Watch Video Solution

56. Formulate the following problems as a pair of equations, and hence find their solutions. :- Roohi travels 300 km to her home partly by train and partly by bus. She takes 4 hours if she travels 60 km by train and the remaining by bus. If she travels 100 km by train and the remaining by bus,she takes 10minutes longer. Find the speed of the train and the bus separately

Watch Video Solution

57. The ages of two friends Ani and Biju differ by 3 years. Ani's father Dharam is twice as old as Ani and Biju is twice as old as his sister Cathy. The ages of Cathy and Dharam differ by 30 years. Find the ages of Ani and Biju.

Watch Video Solution

58. One says, “Give me a hundred, friend ! I shall then become twice as rich as you”. The other replies, “If you give me ten, I shall be six times as rich as you.” Tell me whatistheamount of their (respective) capital ? [From the Bijaganita of Bhaskara II]

Watch Video Solution

59. A train covered a certain distance at a uniform speed. If the train would have been 10 km/h faster, it would have taken 2 hours less than the scheduled time. And, if the train were slower by 10 km/h, it would have taken 3 hours more than the scheduled time. Find the distance covered by the train.

Watch Video Solution

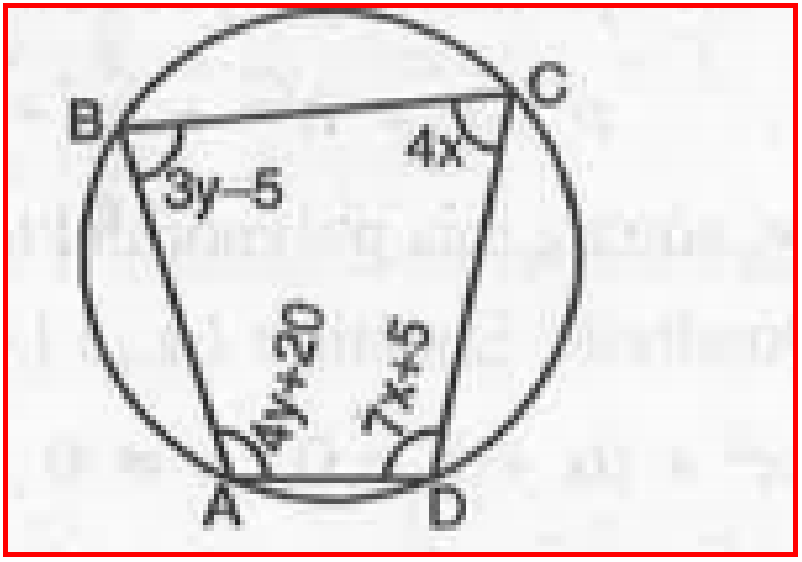
60. The students of a class are made to stand in rows. If 3 students are extra in a row, there would be 1 row less. If 3 students are less in a row, there would be 2 rows more. Find the number of students in the class.

Watch Video Solution

61. A pair of linear equation:- 152x-378y=-74 , -378x+152y=-604 .

Watch Video Solution

62. ABCD is a cyclic quadrilateral (see Fig.) Find the angles of the cyclic quadrilateral.



.

Watch Video Solution

Watch Video Solution

Exercise

1. 4 chairs and 3 tables cost ? 2100 and 5 chairs and 2 tables cost ? 1750. Represent this situation algebraically and graphically.

Watch Video Solution

2. Two years ago a father was five times as old as his son. Two years later, his age will be 8 years more than three times the age of the son. Represent this situation algebraically and graphically .

Watch Video Solution

3. 9 pens and 5 pencils cost rs.154 and 13 pens and 7 pencils cost rs.222. What is the cost of each pen and pencil separately?

Watch Video Solution

4. Ram says to his son, 5 years ago, I was 7 times as old as you were and after 5 years I will be 3 times as old as you will be. Find their present ages.

Watch Video Solution

5. Puneet Sharma starts his job in a school with a certain monthly salary and earns a fixed increment every year. If his salary was rs.15000 after 4 years service and rs. 18000 after 10 years of service. What was his starting salary and what is the annual increment?

Watch Video Solution

6. Deepak buy 2 tickets from station A to station B and 3 from station A to station C, he pays rs. 750. But if he buy 3 tickets from station A to station B and 5 tickets from station A to station C, he have to pay rs.1215. What is the fare from station A to B and A to C ?

Watch Video Solution

7. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}, \frac{c_1}{c_2}$ and without drawing them, find out whether the lines representing the following pairs of linear equations intersect at a point, are parallel or coincide. Also, find out whether the following pair of linear equations are consistent or inconsistent : 3x-4y=1 8y-6x=4 .

Watch Video Solution

8. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}, \frac{c_1}{c_2}$ and without drawing them, find out whether the lines representing the following pairs of linear equations intersect at a point, are parallel or coincide. Also, find out whether the

following pair of linear equations are consistent or inconsistent : 2y-x=3 2x+3y=1 .

Watch Video Solution

9. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}, \frac{c_1}{c_2}$ and without drawing them, find out whether the lines representing the following pairs of linear equations intersect at a point, are parallel or coincide. Also, find out whether the following pair of linear equations are consistent or inconsistent : 3x-4y=-7 3x-4y=-9 .

Watch Video Solution

10. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}, \frac{c_1}{c_2}$ and without drawing them, find out whether the lines representing the following pairs of linear equations intersect at a point, are parallel or coincide. Also, find out whether the following pair of linear equations are consistent or inconsistent : 6x-21y+12=0 10x-35y+20 = 0 .

Watch Video Solution

11. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}, \frac{c_1}{c_2}$ and without drawing them, find out whether the lines representing the following pairs of linear equations intersect at a point, are parallel or coincide. Also, find out whether the

following pair of linear equations are consistent or inconsistent : 3x-y-7=0 9x-3y+25=0 .

Watch Video Solution

12. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}, \frac{c_1}{c_2}$ and without drawing them, find out whether the lines representing the following pairs of linear equations intersect at a point, are parallel or coincide. Also, find out whether the following pair of linear equations are consistent or inconsistent : 5x-24y=16 4x-y=31 .

Watch Video Solution

13. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}, \frac{c_1}{c_2}$ and without drawing them, find out whether the lines representing the following pairs of linear equations intersect at a point, are parallel or coincide. Also, find out whether the following pair of linear equations are consistent or inconsistent : 3x-5y=20 7x+2y=17 .

Watch Video Solution

14. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}, \frac{c_1}{c_2}$ and without drawing them, find out whether the lines representing the following pairs of linear equations intersect at a point, are parallel or coincide. Also, find out whether the

following pair of linear equations are consistent or inconsistent : 5x+2y=16 3x+6/5y=2

Watch Video Solution

15. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}, \frac{c_1}{c_2}$ and without drawing them, find out whether the lines representing the following pairs of linear equations intersect at a point, are parallel or coincide. Also, find out whether the following pair of linear equations are consistent or inconsistent : 5x+2y=16 15/2x +3y=24 .

Watch Video Solution

16. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}, \frac{c_1}{c_2}$ and without drawing them, find out whether the lines representing the following pairs of linear equations intersect at a point, are parallel or coincide. Also, find out whether the following pair of linear equations are consistent or inconsistent : 5x+2y=16 7x-4y=2.

Watch Video Solution

17. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}, \frac{c_1}{c_2}$ and without drawing them, find out whether the lines representing the following pairs of linear equations intersect at a point, are parallel or coincide. Also, find out whether the

following pair of linear equations are consistent or inconsistent :2x-3y=4 4x-6y=7 .

Watch Video Solution

18. On comparing the ratios $\frac{a_1}{a_2}, \frac{b_1}{b_2}, \frac{c_1}{c_2}$ and without drawing them, find out whether the lines representing the following pairs of linear equations intersect at a point, are parallel or coincide. Also, find out whether the following pair of linear equations are consistent or inconsistent :2x-3y=4 6x-9y=12 .

Watch Video Solution

19. Which of the following pairs of linear equations are consistent ? Obtain solution in such cases graphically :- $x-3y=4$, $2x+y=-6$.

Watch Video Solution

20. Which of the following pairs of linear equations are consistent ? Obtain solution in such cases graphically :- $2x+6y=5$, $x+3y=2$.

Watch Video Solution

21. Which of the following pairs of linear equations are consistent ? Obtain solution in such cases graphically :-

$x+y=2, 2x+2y=4$.

Watch Video Solution

22. Which of the following pairs of linear equations are consistent ? Obtain solution in such cases graphically :- $x-4y+14=0$, $3x+2y-14=0$.

Watch Video Solution

23. Which of the following pairs of linear equations are consistent ? Obtain solution in such cases graphically :- $3x-5y+1=0$, $2x-y+3=0$.

Watch Video Solution

24. Which of the following pairs of linear equations are consistent ? Obtain solution in such cases graphically :- $x+y=3$, $2x+5y=12$.

Watch Video Solution

25. Which of the following pairs of linear equations are consistent ? Obtain solution in such cases graphically :- $3x+2y=8$, $2x-3y=1$.

Watch Video Solution

26. Which of the following pairs of linear equations are consistent ? Obtain solution in such cases graphically :-

$2x+7y=14$, $5x+35/2\ y=25$

Watch Video Solution

27. Which of the following pairs of linear equations are consistent ? Obtain solution in such cases graphically :- $x+y=7$, $5x+2y=20$.

Watch Video Solution

28. Which of the following pairs of linear equations are consistent ? Obtain solution in such cases graphically :- $2x-3y=5$, $6x-4y=3$.

Watch Video Solution

29. Which of the following pairs of linear equations are consistent ? Obtain solution in such cases graphically :- $2x+7y=11$, $5x+35/2\ y=25$

Watch Video Solution

30. Which of the following pairs of linear equations are consistent ? Obtain solution in such cases graphically :- $6x+2y=5$, $3x+y=2$.

Watch Video Solution

31. Which of the following pairs of linear equations are consistent ? Obtain solution in such cases graphically :-

$x+3y=6$, $2x-3y=12$

Watch Video Solution

32. Find graphically the vertices of the triangle whose sides have the equations $y = x$, $y = 0$ and $2x + 3y = 10$.

Watch Video Solution

33. Draw the graphs of the equations $4x - y = 4$ and $4x + y = 12$ Determine the vertices of the triangle formed by the lines representing these equations and the x-axis. Shade the triangular region so formed.

Watch Video Solution

34. Draw the graphs of equations : $3x - y = 3$ $x - 2y = -4$. Shade the area of region bounded by the lines and x-axis.

Watch Video Solution

35. Determine graphically the coordinates of the vertices of the triangle, the equations of whose sides are $x + y - 1 = 0$, $x - y - 1 = 0$ and $x = 0$.

Watch Video Solution

36. Draw the graphs of equations : $5x - 6y + 30 = 0$, $5x + 4y - 20 = 0$ Also find the vertices of the triangle formed by the above two lines and x-axis.

Watch Video Solution

37. Draw the graphs of linear equations $2x + y - 3 = 0$, $x-y= 0$ Also find the area of the region formed by these two lines and y-axis.

Watch Video Solution

38. Draw the graphs of linear equations $x-y= - 1$ and $3x + 2y = 12$. Calculate the area bounded by these lines and the x-axis.

Watch Video Solution

39. Three chairs and two tables cost Rs 2250. Two chairs and three tables cost Rs 2750. Solve it graphically. Also find the cost of five chairs and two tables.

Watch Video Solution

40. In a bag, there are 175 notes of Rs 5 and Rs 10 denominations. If their total value is Rs 1000. Solve it graphically and find number of each type of note.

Watch Video Solution

41. Solve it graphically Shruti and Swati each have certain number of pens. Shruti says to Swati, “If you give me 10 of

your pens, I will have twice the number of pens left with you. Swati replies, “If you give me 10 of your pens, I will have the same number of pens as left with you. Find the number of pens with Shruti and Swati separately.

Watch Video Solution

42. Solve it graphically : The age of Sanjay is 4 times the age of his son. 5 years hence the age of Sanjay will be three times the age of his son. Find their present ages.

Watch Video Solution

43. A and B each has same money. If A gives Rs 30 to B, then B will have twice the money left with A. But if B gives

Rs 10 to A, then A will have thrice as much as is left B. How much money does each have ? Solve this situation graphically.

Watch Video Solution

44. Solve it grapically : There are two examination rooms A and B. If 10 candidates are sent from A to B, the number of students in each room is same. If 20 candidates are sent from B to A, the number of students in A is double the number of students in B. Find the number of students in each room.

Watch Video Solution

45. The pair of linear equations $a_1x + b_1y + c_1 = 0'$ and a_2x+b_2y+c_2=0' have a unique solution, if _____ .

Watch Video Solution

46. Solve the following pair of linear equation graphically :

2x + y - 6 = 0 ., 4x - 2y - 4 = 0.

Watch Video Solution

47. The price of 2 pencils and 3 erasers is ? 19. The price of 3 pencils and 2 erasers is ? 21. Find the value of one pencil and one eraser.

Watch Video Solution

48. Solve the following pair of linear equations by substitution method : $3x-y=3, 7x+2y=20$.

Watch Video Solution

49. Solve the following pair of linear equations by substitution method : $7x+11y-3=0, 8x+y-15=0$.

Watch Video Solution

50. Solve the following pair of linear equations by substitution method : $3x+4y=7$, $2x+2=-y$.

Watch Video Solution

51. Solve the following pair of linear equations by substitution method :$2x+7y=11, 3x=y+5$.

Watch Video Solution

52. Solve the following pair of linear equations by substitution method : $2x+y=17$, $17x-11y=8$.

Watch Video Solution

53. Solve the following pair of linear equations by substitution method : $15/u + 2/v =17$, $1/u + 1/v =36/5$.

Watch Video Solution

54. Solve the following pair of linear equations by substitution method : ax+by = a^2 , bx+ay=b^2 .

Watch Video Solution

55. Solve the following pair of linear equations by substitution method : 0.4x+0.3y=1.7 , 0.7x-0.2y=0.8 .

Watch Video Solution

56. Solve the following pair of linear equations by substitution method : $-\sqrt{3}y+\sqrt{2}x=0$,

$\sqrt{2}x + \sqrt{5}y = 0$.

Watch Video Solution

57. Solve the following pair of linear equations by substitution method : $\frac{2x^2 + 7}{x} = 2x + 1$, 5x+y=40 .

Watch Video Solution

58. Solve the following pair of linear equations by substitution method : x+y=a+b , ax-by= $a^2 - b^2$.

Watch Video Solution

59. Solve the following pair of linear equations by substitution method : $2/x + 3/y = 2, 3/x + 2/y = 2\ 1/6$.

Watch Video Solution

60. Solve $3x + 2y = 14$ and $-x + 4y = 7$ and hence find the value of k for which $3x = 2ky + 6$.

Watch Video Solution

61. Solve $x - y = 0.9$ and $2(x + y) = 11$ and hence find the value of m for which $y = mx - 3$.

Watch Video Solution

62. Form the pair of linear equations in the following problems and find their solution by substitution method : The path traced by two trains are given by equations $x + 2y - 4 = 0$ and $2x + 4y — 12 = 0$. Will the path cross ?

Watch Video Solution

63. Form the pair of linear equations in the following problems and find their solution by substitution method : If 1 is added to each of the two numbers, their ratio becomes 1 : 2 and when 5 is subtracted from each of these, the ratio becomes 5:11. Find the numbers.

Watch Video Solution

64. A man rowing at the rate of 5 km per hour in still water takes thrice, as much time in going 40 km up the river as in going 40 km down. Find the rate at which the river flows.

Watch Video Solution

65. Form the pair of linear equations in the following problems and find their solution by substitution method : Anu has only 10 paise and 50 paise coins in her purse. If the total number of coinsis 17 and their total value is ? 4.50, find the number of each type of coins.

Watch Video Solution

66. Form the pair of linear equations in the following problems and find their solution by substitution method : Four kg of apples and 3 kg of guava together cost ? 36.50 while 3 kg of apples and 2 kg of guava cost ? 26.50. What is the price per kg of apples and guava ?

Watch Video Solution

67. Form the pair of linear equations in the following problems and find their solution by substitution method : A horse and 2 cows together cost ? 680. If a horse costs ? 80 more than a cow, find the cost of each.

Watch Video Solution

68. Form the pair of linear equations in the following problems and find their solution by substitution method : Ten years ago, father was twelve times as old as his son and ten years hence he will be twice as old as his son will be. Find their present ages.

Watch Video Solution

69. Form the pair of linear equations in the following problems and find their solution by substitution method : A's present age is to B's present age is 7 : 9. Twelve years ago, their ages were in the ratio 3:5. When would the ratio of their ages be 6 : 7 ?

Watch Video Solution

70. Form the pair of linear equations in the following problems and find their solution by substitution method : A fraction reduces to 1/4 when 2 is subtracted from the numerator and 3 is added to the denominator. But it reduces 2/3 if 6 is added to the numerator and denominator is multiplied by 3. Find the fraction.

Watch Video Solution

71. Form the pair of linear equations in the following problems and find their solution by substitution method : Find the fraction which becomes to 2/3 when the numerator is increased by 2 and equal to 4/7 when the denominator is increased by 4 .

Watch Video Solution

72. Form the pair of linear equations in the following problems and find their solution by substitution method : Five years ago, I was thrice as old as my son and ten years later I shall be twice as old as my son. How old are we now ?

Watch Video Solution

73. Solve the following pair of linear Equations by the substitution method : $2x+y=5$, $3x+2y=8$.

Watch Video Solution

74. Solve the following pair of linear Equations by the substitution method : $2x+3y=11, 2x-4y=-24$.

Watch Video Solution

75. Solve the following pair of linear Equations by the substitution method : $7x-15y=2, x+2y=2$.

Watch Video Solution

76. Solve the following equations by Elimination method :

$x-5y= 11 , 2x + 3y = - 4$

Watch Video Solution

77. Solve the following equations by Elimination method :

$4x-3y=8, 6x-y=29/3$.

Watch Video Solution

78. Solve the following equations by Elimination method :

$7x=8y+11$, $8x-7y-7=0$.

Watch Video Solution

79. Solve the following equations by Elimination method :

$3x+5y=7$, $11x=9+13y$.

Watch Video Solution

80. Solve the following equations by Elimination method :

3x+2y-11/3=0 , -7x+5y-31/3=0

Watch Video Solution

81. Solve the following equations by Elimination method :

$$\frac{11}{v} - \frac{7}{u} = 1$$
$$\frac{9}{v} - \frac{4}{u} = 6 .$$

Watch Video Solution

82. Solve the following equations by Elimination method :

$$2u + v = \frac{7}{3}uv ,$$
$$u + 3v = \frac{11}{3}uv .$$

Watch Video Solution

83. Solve the following equations by Elimination method :

1/3x +y/9 =5 , 1/5x +y/2 =16 .

Watch Video Solution

84. Solve the following equations by Elimination method :

$$\frac{x+y}{xy}=5, \frac{x-y}{xy}=7 .$$

Watch Video Solution

85. Solve the following equations by Elimination method :

$$\frac{x+y}{2}-\frac{x-y}{3}=8 ,$$

$$\frac{x+y}{3}+\frac{x-y}{4}=11\,.$$

Watch Video Solution

86. Solve the following equations by Elimination method :

$$a(x+y)+b(x-y)-\left(a^2-ab+b^2\right)=0 \quad ,$$

$$a(x+y)-b(x-y)-\left(a^2+ab+b^2\right)=0\,.$$

Watch Video Solution

87. Solve the following equations by Elimination method :

$$(a-b)x+(a+b)y=a^2-2ab-b^2 \quad ,$$

$$(a+b)(x+y)=a^2+b^2\,.$$

Watch Video Solution

88. Solve the following equations by Elimination method :

$\frac{b}{a}x + \frac{a}{b}y = a^2 + b^2$, x+y=2ab .

Watch Video Solution

89. Solve the following equations by Elimination method :

$6(ax + by) = 3a + 2b$

$6(bx - ay) = 3b - 2a.$

Watch Video Solution

90. Solve the following equations by Elimination method :

x-y=0.9 , 11/(x+y) = 2.

Watch Video Solution

91. Solve the following equations by Elimination method :

$$\frac{2x-3y}{3}=3+\frac{3y-4x}{4}, \frac{1}{3}(6y+7x)=\frac{1}{5}(7x+12y)+4$$

.

Watch Video Solution

92. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : Seven times a given two digit number is equal to four times the number obtained by interchanging the digits and the difference of digits is 3. Find the number

Watch Video Solution

93. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : If a room were 2 m longer and 3 m broader then its area would have increased by 75 sq. m. If it were one metre shorter and 2 metres broader, the area would have increased by 16 sq.m. find its lenght and breadth .

Watch Video Solution

94. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : The sum of a two digit number and

another formed by reversing its digit is 99. Five added to the number yields 4 less than 6 times the sum of its digits. Determine the number.

Watch Video Solution

95. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : A certain number of two digits is three times the sum of its digits and if 45 be added to i,t the digits will be reversed. Find the number.

Watch Video Solution

96. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : Find the fraction which becomes equal to 1/3 when the numerator is increased by 1 and equal to 1/4 when denominator is increased by 1.

Watch Video Solution

97. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : If twice the son's age in years is added to the father's age, the sum is 70. But if twice the father's age is added to the son's age, the sum is 95. Find the ages of father and son.

Watch Video Solution

98. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : I am three times as old as my son. Five year later, I shall be two and a half times as old as my son. How old am I and how old is my son ?

Watch Video Solution

99. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : Points A and B are 90 km apart from each other on a highway. A car starts from A and another

from B at the same time. If they go in the same direction they meet in 9 hours and if they go in opposite direction they meet in 9/7 hours. Find their speeds.

Watch Video Solution

100. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : In an examination the ratio of passes to failures was 4:1. Had 30 less appeared and 20 less passed, the ratio of passes to failures would have been 5:1. How many students appeared for the examination ?

Watch Video Solution

101. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : Sarvesh and Naresh, each has some money. If Sarvesh gives ? 50 to Naresh, then Naresh will have twice the money left with Sarvesh. But if Naresh gives ? 20 to Sarvesh, then Sarvesh will have thrice as much as is left with Naresh. How much money does each have ?

Watch Video Solution

102. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : 2 men and 5 women can do a piece

of work in 4 days. While 4 men and 4 women can finish it in 3 days. How long would it take 1 man to do it ? How long would it take 1 woman to do it ?

Watch Video Solution

103. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : The ages of two friends A and B differ by 3 years, A's father D is twice as old as A, and B is twice old as his sister C. The ages of C and D differ by 30 years. Find ages of A and B if A is elder than B.

Watch Video Solution

104. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : If the numerator is multiplied by 2 and denominator is reduced by 5, the fraction becomes 6/5 and if the denominator is doubled and the numerator is increased by 8, the fraction becomes 2/5 . Find the fraction

Watch Video Solution

105. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : If we add 3 to the numerator and subtract 2 from the denominator, a fraction becomes 2. It

also becomes 1/2 if we add 1 to the denominator. Find the fraction.

Watch Video Solution

106. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : The car hire charges in a city comprise of a fixed charges together with the charges for the distance covered. For a journey of 12 km, the charge paid is rs 89 and for a journey of 20 km, the charge paid is rs 145. What will a person have to pay for travelling a distance of 30 km?

Watch Video Solution

107. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : There are rs 2 and rs 5 coins in a purse. If there are 60 coins of value rs 195, find the number of coins of each kind.

Watch Video Solution

108. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : A man wanted to exchange Rs 1000 in 2 types of notes of Rs 5 and Rs 10 denominations. If he has 180 notes in all, find the number of notes of each kind.

Watch Video Solution

109. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : A part of monthly hostel charges in a college are fixed and remaining depend on number of days one has taken food in the mess. When a student A takes food for 20 days, he has to pay rs 1000 as hostel charges whereas student B who takes food for 26 days has to pay rs 1180 as hostel charges. Find fixed charges and cost of food per day.

 Watch Video Solution

110. From the pair of linear equations in the following problems and find their solutions (if they exist) by elimination method : A part of monthly expenses of a family is constant and the remaining varies with the price of wheat. When the cost of wheat is ? 500 a Quintal the total monthly expenses are ? 1500 and when it is ? 600 a quintal, the total monthly expenses are ? 1700. Find the monthly expenses whefl' the cost of wheat is ? 900 a quintal.

Watch Video Solution

111. Solve the following pair of linear equations by cross multiplication method : 7x-2y=3 , 11x -3/2 y =8 .

Watch Video Solution

112. Solve the following pair of linear equations by cross multiplication method : 4x+7y=10 , 10x- 35/2 y = 25 .

Watch Video Solution

113. Solve the following pair of linear equations by cross multiplication method : 5/3 x + 3/5 y =1, 3/5 x - 5/3 y = -2 .

Watch Video Solution

114. Solve the following pair of linear equations by cross multiplication method : x+y=a+b , ax-by = $a^2 - b^2$.

Watch Video Solution

115. Solve the following pair of linear equations by cross multiplication method : x/a + y/b -2 =0, ax-by= $a^2 - b^2$.

Watch Video Solution

116. Solve the following pair of linear equations by cross multiplication method : x/a + y/b -2 =0, $\frac{x}{a^2} + \frac{y}{b^2} = 2$.

Watch Video Solution

117. Solve the following pair of linear equations by cross multiplication method : ax+by=1 , 1+(bx+2y)= $\frac{(a+b)^2}{a^2+b^2}$.

Watch Video Solution

118. Solve the following pair of linear equations by cross multiplication method : 5x+2y+13=0, 7x-5y+26=0 .

Watch Video Solution

119. Solve the following pair of linear equations by cross multiplication method : $y = \frac{2x+1}{3} = \frac{3x+4}{4}$.

Watch Video Solution

120. Solve the following pair of linear equations by cross multiplication method : 2x-3y=1.3, y-x=-0.5 .

Watch Video Solution

121. Solve the following pair of linear equations by cross multiplication method : $2x+3y= 11/3$, $5x-7y=31/3$.

Watch Video Solution

122. Solve the following pair of linear equations by cross multiplication method : $(a+c)x-(a-c)y=2ab$, $(a+b)x-(a-b)y=2ab$.

Watch Video Solution

123. Solve the following pair of linear equations by cross multiplication method : $4x-by=6+b$, $bx-y=2b$.

Watch Video Solution

124. Solve the following pair of linear equations by cross multiplication method : $3x-5y=20$, $7x+2y=17$.

Watch Video Solution

125. Find the value of k for which the system of linear equations : $(k - 1) x + (k + 2) y = k$, $2x + 5y = 3$ will have infinite number of solutions.

Watch Video Solution

126. Determine the value of a for which the following system of linear equations has an infinite number of solutions : $ax + 3y = a - 3$, $12x + ay = a$.

Watch Video Solution

127. For what value of m, the following system of equations have $2x + my = 1$, $3x - 5y = 7$:- a unique solution

Watch Video Solution

128. For what value of m, the following system of equations have $2x + my = 1$, $3x - 5y = 7$:- no solution.

Watch Video Solution

129. Find the value of k for which the following system of linear equations has no solution. $Kx+3y=k-3$, $12x+ky=k$.

Watch Video Solution

130. Find the value of a and b for which the following system of equations has infinite number of solutions. $2x + 3y = 7$, $(a + b) x + (2a - b) y = 3 (a + b + 1)$.

Watch Video Solution

131. Find the value of k for which the following system of linear equations : $2x - ky = 1$, $3x - 5y = 7$ will have :- a unique solution .

Watch Video Solution

132. Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method :- A two digit number is obtained by either multiplying the sum of the digits by 8 and adding 1, or by multiplying the difference of the digits by 13 and adding 2. Find the number.

Watch Video Solution

133. Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method :-The sum of a two-digit number and the number formed by interchanging the digits is 110. If 10 is subtracted from the first number, the new number is 4 more than 5 times the sum of the digits in the first number. Find the number

Watch Video Solution

134. Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method :-A number consisting of two-digits, is equal to 7 times the sum of its digits. When 27 is

subtracted from the number, the digits interchange their places. Find the number

Watch Video Solution

135. Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method :-The sum of numerator and denominator of a fraction is 4 more than twice the numerator. If' the numerator and denominator are increased by 3, they are in the ratio 2:3. Find the fraction.

Watch Video Solution

136. Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method :-A fraction becomes 3/4 if 1 is subtracted from denominator. If 3 is added to both the numerator and denominator, it becomes 5/6 . Find the fraction.

Watch Video Solution

137. Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method :-When 3 is added to the denominator and 2 is subtracted from the numerator, a fraction becomes 1/4 .And when 6 is added to numerator and the

denominator is multiplied by 3, it becomes 2/3 . Find the fraction

Watch Video Solution

138. Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method :-Places A and B are 80 km apart from each other on a highway. A car starts from A and another from B at the same time. If they move in the same direction they meet in 8 hours , and if they move in opposite direction, they meet in 1 hour and 20 minutes respectively. Find the speed of the cars.

Watch Video Solution

139. Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method :- Points A and B are 70 km apart on a highway. A carstarts from A and another car starts from B simultaneously. If they travel in the same direction, they meet in 7 hours, but if they travel towards each other, they meet in one hour. Find the speed of two cars.

Watch Video Solution

140. Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method :- A part of monthly expenses of a family is constant and the remaining varies with the price of

wheat. When the cost of wheat is Rs 250 a quintal, the total monthly expenses of the family are Rs 1000 and when it is Rs 240 a quintal, the total monthly expenses are Rs 980. Find the total monthly expenses of the family when the cost of wheat is Rs 350 a quintal

Watch Video Solution

141. Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method :- The ratio of incomes of two persons is 9 : 7 and ratio of their expenditures is 4 : 3. If each of them saves ? 200 per month. Find their monthly incomes.

Watch Video Solution

142. Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method :- The area of a rectangle is reduced by 9 sq. metres if its length is reduced by 5 metres and the breadth is increased by 3 metres. If we increase the length by 3 units and the breadth by 2 units, area increases by 67 square units. Find the length and breadth of the rectangle.

Watch Video Solution

143. Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method :- The area of a rectangle gets reduced

by 80 sq. units if its length is reduced by 5 units and the breadth is increased by 2 units. If we increase the length by 10 units and decrease the breadth by 5 units, the area is increased by 50 sq. units. Find the length and breadth of rectangle.

Watch Video Solution

144. Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method :- If in a rectangle, the length is increased and breadth is reduced by 2 units each, the area is reduced by 28 square units. If the length is reduced by 1 unit and breadth is increased by 2 units, the

area is increased by 33 sq. units. Find the dimension of the rectangle.

Watch Video Solution

145. Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method :- There are some lotus flowers in a lake. If one butterfly sits on each flower, one butterfly is left behind. If two butterflies sit on each flower, one flower is left behind. What is the number of flowers ? What is the number of butterflies ?

Watch Video Solution

146. Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method :- Students of a class are made to stand in rows. If one student is extra in a row, there would be 2 rowless. If one student is less in a row, there would be 3 rows more. Find the number of students in the class.

Watch Video Solution

147. Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method :- The total expenditure per month of a household consists of a fixed rent of the house and mess charges depending upon the number of people sharing

the house. The total monthly expenditure is ? 3900 for 2 people and 7500 for 5 people. Find the rent of the house and mess charges per head per month.

Watch Video Solution

148. Form the pair of linear equations in the following problems and find their solutions (if they exist) by any algebraic method :- for which value of k the following linear pair of equations have no solution ? $3x + y=1$ and $(2k-1)x+(k- 1)y= 2k+1$.

Watch Video Solution

149. Solve the following pairs of equations by reducing them to a linear pair :- $\frac{44}{x+y} = \frac{30}{x-y} = 10$, x+y $\neq$ 0, x-y $\neq$ 0 .

Watch Video Solution

150. Solve the following pairs of equations by reducing them to a linear pair :- 48/(x+y) - 6/(x-y) = 10 , 15/(x+y) + 4/(x-y) = 9 .

Watch Video Solution

151. Solve the following pairs of equations by reducing them to a linear pair :- 15/x+2/y=17 , 1/x+1/y=36/5 .

Watch Video Solution

152. Solve the following pairs of equations by reducing them to a linear pair :- $(x+y)/xy=5$, $(x-y)/xy=7$.

Watch Video Solution

153. Solve the following pairs of equations by reducing them to a linear pair :- $(x+y)/8 - (x-y)/6 = 5$, $(x+y)/8+(x-y)/3 =10$.

Watch Video Solution

154. Solve the following pairs of equations by reducing them to a linear pair :- $(x+y)/2 - (x-y)/3 = 8$, $(x+y)/3 + (x-y)/4 = 11$.

Watch Video Solution

155. Solve the following pairs of equations by reducing them to a linear pair :- $4/(x-3) + 6/(y-4) = 5$, $5/(x-3) - 3/(y-4) = 1$.

Watch Video Solution

156. Solve the following pairs of equations by reducing them to a linear pair :- $3/x + 2/y = 5$, $5/x - 2/y = 3$.

Watch Video Solution

157. Solve the following pairs of equations by reducing them to a linear pair :- $2/x - 3/y + 5 = 0$, $3/x + 2/y + 4 = 0$.

158. Solve the following pairs of equations by reducing them to a linear pair :- $1/2x - 1/y = -1$, $1/x + 1/2y = 8$.

159. Solve the following pairs of equations by reducing them to a linear pair :- $2u + v = 7/3\ uv$, $u + 3v = 11/3uv$.

Watch Video Solution

160. Solve the following pairs of equations by reducing them to a linear pair :- $4x+3/y=9$, $3x+6/y=8$, $y \neq 0$.

Watch Video Solution

161. Solve the following pairs of equations by reducing them to a linear pair :- $5/(x+y)- 2/(x-y)=-1$, $15/(x+y)+7(x-y)=10$.

Watch Video Solution

162. Solve the following pairs of equations by reducing them to a linear pair :- $\frac{a}{x}-\frac{b}{y}=0, \frac{ab^2}{x}+\frac{a^2b}{y}=a^2+b^2$.

Watch Video Solution

163. Solve the following pairs of equations by reducing them to a linear pair :- 57/(x+y)+6(x-y)=5, 38/(x+y)+21/(x-y)=9 .

Watch Video Solution

164. Solve the following pairs of equations by reducing them to a linear pair :- 2/(3x+2y)+3/(3x-2y)=17/5 ,

$5/(3x+2y)+1/(3x-2y)=2$.

Watch Video Solution

165. Solve the following pairs of equations by reducing them to a linear pair :- $1/(2(2x+3y))+12/(7(3x-2y))=1/2$, $7/(2x+3y)+4/(3x-2y)=2$.

Watch Video Solution

166. Solve for x and y $2/x+2/3y=1/6$, $3/x+2y=0$ and hence find 'a' for which $y = ax-4$.

Watch Video Solution

167. Solve for x and y 4x+6/y=15 , 6x-8/y=14 . and hence find 'p' for which y = px - 2.

Watch Video Solution

168. A boat goes 25 km upstream and 33 km downstream in 8 hours. It can also go 40 km upstream and 77 km downstream in 15 hours. Find the speed of the stream and that of the boat in still water.

Watch Video Solution

169. A boat goes 30 km upstream and 44 km downstream in 10 hours. In 13 hours, it can go 40 km upstream and 55

km downstream. Find the speed of the stream and that of the boat in still water.

Watch Video Solution

170. Romesh travels 600 km to his home, partly by train and partly by car. He takes 8 hours when he travels 120 km by train and the rest by car. He takes 20 minutes longer if he travels 200 km by train and rest by car. Find the speed of the train and the car

Watch Video Solution

171. A man walks a certain distance at a certain speed. Had he walked 1/2 km/hrfaster, he would have, taken 1 hour

less. But if he had gone 1 km/hr slower, he would have taken 3 hours more. Find the distance.

Watch Video Solution

172. A man has to walk a certain distance. He finds that if he walked 1/4 of a km an hour faster he will take 20 minutes less, but if he walks 1/2 km an hour slower he will take 52 minutes more. Find the distance and his rate of walking.

Watch Video Solution

173. Points A and B are 90 km apart from each other on a highway. A car starts from A and another from B at the

same time. If they go in the same direction they meet in 9 hours and if they go in opposite direction they meet in 9/7 hours. Find their speeds.

Watch Video Solution

174. After covering a distance of 30 km with a uniform speed there is some defect in a train engine and, therefore, its speed is reduced to 4/5 of its original speed. Consequently, the train reaches its destination late by 45 minutes. Had it happened after covering 18 kilometres more, the train would have reached 9 minutes earlier. Find the speed of the train and the distance of journey.

Watch Video Solution

175. A boat can go 20 km upstream and 30 km downstream in 3 hours. It can go 20 km downstream and 10 km .upstream in $1\frac{2}{3}$ hrs. Find the speed of the boat in still water and speed of stream.

Watch Video Solution

176. The speed of a boat in still water is 10 km/hr. If it can travel 26 km downstream and 14 km upstream in the same time, find the speed of the stream.

Watch Video Solution

177. A cyclist after travelling a certain distance stopped for 30 minutes to repair the cycle. Then he completed the whole journey of 30 km at half speed and took a total time of 5 hours. If the breakdown has occurred 10 km further off, he would have completed the whole journey in 4 hours. Find where the breakdown occurred and his original speed.

Watch Video Solution

178. A man walks a certain distance at a certain speed. Had he walked 1/2 km/hrfaster, he would have, taken 1 hour less. But if he had gone 1 km/hr slower, he would have taken 3 hours more. Find the distance.

Watch Video Solution

179. A and B are two points of 150 km apart on a highway. A car starts from A and another from B at the same time. If they move in the same direction, they meet in 15 hours, but if they move in opposite direction, they meet in one hour. Find their speeds.

Watch Video Solution

180. 8 men and 12 boys can finish a piece of work in 10 days while 6 men and 8 boys can finish it in 14 days. Find the time taken by a man alone and that by 1 boy alone to finish the work.

Watch Video Solution

181. 2 men and 5 boys can do a piece of work in 4 days, while 4 men and 4 boys can do it in 3 days. How long would it take one man alone to do it and how many days would it take one boy alone to do it ?

Watch Video Solution

182. 2 men and 7 boys can do a piece of work in 4 days. The same work is done in 3 days by 4 men and 4 boys. How long would it take one man and one boy alone to do it ?

Watch Video Solution

183. A man travels 370 km partly by train and partly by car. If he covers 250 km by train and the rest by car, it takes him 4 hours. But if he travels 130 km by train and the rest by car, he takes 18 minutes longer. Find the speed of train and that of car

Watch Video Solution