ACHIEVERS FOUNDATION

PAIR OF LINEAR EQUATION IN TWO VARIABLES

WORK SHEET-2

1.   Seven times a two digit number is equal to four times the number obtained by reversing the digits. If the difference between the digits is 3. Find the number.

2.   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 what is the amount of their respective capita

3.   The coach of a cricket team buys 7 bats and 6 balls for Rs 3800. Later, he buys 3 bats and 5 balls for Rs 1750. Find the cost of each bat and each ball.

4.   On selling a T.V. at 5%gain and a fridge at 10% gain, a shopkeeper gains Rs 2000. But if he sells the T.V. at 10% gain and the fridge at 5% loss. He gains Rs 1500 on the transaction. Find the actual prices of T.V. and fridge.

5.   Sum of the ages of a father and the son is 40 years. If father's age is three times that of his son, then find their respective ages

6.   A part of monthly hostel charge is fixed and the remaining depends on the number of days on e has taken food in the mess. When Swati takes food for 20 days, she has to pay Rs. 3,000 as hostel charges whereas Mansi who takes food for 25 days Rs. 3,500 as hostel charges. Find the fixed charges and the cost of food per day.

7.   From the pair of linear equations for the following problems and find their solution by substitution method:

(a) The difference between two numbers is 26 and one number is three times the other. Find the numbers.

(b) The larger of two supplementary angles exceeds the smaller by 18 degree. Find the angles.

(c) The coach of cricket team buys 7 bats and 6 balls for Rs. 3,800. Later, she buys 3 bats and 5 balls for Rs. 1750. Find the cost of each bat and each ball.

(d) The taxi charges in a city consist of a fixed charge together with the charge for the distance covered. For a distance of 10km, the charge paid is Rs. 105 and for a journey of 15 km the charge paid is Rs. 155. What are the fixed charges and the charge per km? How much does a person have to pay for travelling a distance of 25 km?

(e) A fraction becomes 11 /9 if 2 is added to both the numerator and the denominator. If 3 is added to bothe the numerator and the denominator it becomes 6/ 5. Find the fraction.

(f) Five year hence, the age of Jacob will be three times that of his son. Five years ago, Jacob's age was seven times that of his son. What are their present ages?

8.   Form the pair of linear equations in the following problems, and find their solutions (if they exist) by the elimination method :

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(a) If we add 1 to the numerator and subtract 1 from the denominator, a fraction reduces to 1. it becomes ½ if we only add 1 to the denominator. What is the fraction ?

(b) Five years ago, Nuri was thrice as old as Sonu. Ten years leter, Juri will bw twice as old as Sonu. How old are Nuri and sonu ?

(c) 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 digits. Find the number.

(d) Meena went to a bank to withdraw Rs. 2,000. 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.

(e) A lending library has fixed charge for the first three days and as additional charge for each day thereafter. 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.

9.   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.

(a) x - 3y - 3 = 0 ;   3x - 9y - 2 = 0

(b) 2x + y = 5;   3x + 2y = 8

(c) 3x - 5y = 20;   6x - 10y = 40

(d) x - 3y - 7 = 0;   3x - 3y - 15 = 0

10.   From the pair of linear equations in the following problems and find their solutions (if they exist) any algebraic method :

(a) A part of monthly lostel 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 Rs 1,000 as hostel charges whereas a student B, who takes food for 26 days, pay Rs 1,180 as hostel sharges. Find the fixed charges and the cost of food per day.

(b) A fraction becomes 1/3 ,when 1 is subtracted from the numerator and it becomes 1/4 , when 8 is added to its denomiantor. find the fraction.

(c) Yesh scored 40 marks in a test, getting 3 marks for each right answer and losing 1 marks 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 ?

(d) Places A and B are 100 km apart on a highway. One car starts from A and another from B at the some time. If the cars travel in the same direction at different speeds, they meet in 5 hr. If they travel towards each other, they meet in 1 hr. What are the speeds of the two cars ?