Chapter-3 Pair of linear equation in 2-variables

WORKSHEET-3B

Type 1. Fraction

1. The denominator of a fraction is greater than its numerator by 11. If 8 is added to both its numerator and denominator, it becomes $\frac{3}{4}$. Determine the fraction.

2. A fraction becomes $\frac{1}{3}$ when 1 is subtracted from the numerator and it becomes $\frac{1}{4}$ when 8 is added to its denominator. Find the fraction.

3. Two numbers are in the ratio 5:6. If 8 is subtracted from each of the numbers, the ratio becomes 4:5. Find the numbers.

4. If 1 is added to the denominator of a fraction, the fraction becomes $\frac{1}{2}$. If 1 is added to the numerator of the fraction, the fraction becomes 1. Find the fraction.

5. When the numerator of the fraction is increased by 4, the fraction increases by $\frac{2}{3}$. What is the denominator of the fraction?

Type 2. Age related

6. Six years ago, ramesh was three times as old as anil. Four years from now, ramesh will be only twice as old as anil will be. Find the present age of each person.

7. The age 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 (consider Ani is elder than Biju).

8. Ram's father is 4 times as old as Ram. Five years ago, his father was 9 times as old as he was then. What are their present ages?

9. At the time of marriage a man was 6 years older than his wife, but 12 years after his marriage, his age was $\frac{6}{5}th$ of the age of his wife. What were their ages at the time of marriage?

10. The present ages of Ram and Shyam are in the ratio 5:6. Five years ago, the ratio was 4:5. Find their present ages.

Type 3. Fixed charge problems

11. A part of monthly hostel charges in a college is fixed and the remaining depends on the number of days one has taken food in the mess. When a student Esha takes food for 20 days she has to pay Rs 1000 as hostel charges whereas a student Nisha who takes food for 28 days pays Rs 1240 as hostel charges. Find the fixed charges and the cost of food per day.

12. 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 Rs 1000 as hostel charges whereas a student B , who takes food for 26 days, pays Rs 1180 as hostel charges. Find the fixed charges and the cost of food per day.

13. A lending library has a fixed charge for the first 2 days and an additional charge for each day thereafter. Rahul paid Rs 28 for a book kept for 8 days, while vaibhav paid Rs 24 for the book he kept for 6 days. Find the fixed charge and the charge for each extra days.

14. The taxi charges in a city consist of a fixed charge together with the charge for the distance covered. For a distance of 12 km, the charge paid is Rs 144 and for a journey of 20 km, the charge paid is Rs 160. What are the fixed charges and the charge per km?

Type 4. Miscellaneous questions

15. The cost of 3 coffee tins and 2 tea packets is Rs 230 and that of one coffee tin and 4 tea packets of the same type is Rs 210. Find the cost of each.

16. A labourer was engaged for 30 days on the condition that he will be paid Rs 250 every day he works and will be fined Rs 100 for every day he is absent. He earned Rs 4700 in all. Find how many days did he work.

17. The cost of 5 pencils and 6 erasers is Rs 86 whereas that of 3 pencils and 2 erasers is 420 paisa. Find the cost of each pencil and eraser.

18. The cost of 4 pens and 4 pencil boxes is Rs 100. Three times the cost of a pen is Rs 15 more than the cost of a pencil box. Find the cost of a pen and a pencil box.

19. There are some students in the two examination halls A and B. To make the number of students equal in each hall, 10 students are sent from A to B. But if 20 students are sent from B to A, the number of students in A becomes double the number of students in B. Find the number of students in the two halls.