1. Solve each of the following systems of equations by eliminating x (by substitution) :
   (*i*) $x+y=7, \quad 2x-3y=11$
   (*ii*) $2x-7y=1, \quad 4x+3y=15$
   (*iii*) $3x-5y=1, \quad 5x+2y=19$
   (*iv*) $5x+8y=9, \quad 2x+3y=4$
   (*v*) $\frac{x}{a}-\frac{y}{b}=0, \quad ax+by=a^2+b^2$
   (*vi*) $x+y-(a+b)=0, \quad ax-by-(a^2-b^2)=0.$
2. Five years hence, father's age will be three times the age of this son. Five years ago, father was seven times as old as his son. Find their present ages.
3. A father is six times as old as his son. Four years hence he will be four times as old as his son. Find their present ages.
4. The age of father is 4 times the age of his son. 5 years hence the age of father will be three times the age of his son. Find their present ages.
5. Priya is $\frac{1}{4}$ times as old as her mother. After 12 years, Priya will be half as old as her mother. Determine the present ages of Priya and her mother.
6. Find the fraction which becomes to $\frac{2}{3}$ when the numerator is increased by 2 and equal to $\frac{4}{7}$ when the denominator is increased by 4.
7. Find the fraction which becomes equal to $\frac{1}{3}$ when the numerator is increased by 1 and equal to $\frac{1}{4}$ when the denominator is increased by 1.
8. A fraction reduces to $\frac{1}{4}$ when 2 is subtracted from the numerator and 3 is added to the denominator. But it reduces to $\frac{2}{3}$ if 6 is added to the numerator and denominator is multiplied by 3. Find the fraction.
9. In a given fraction if the numerator is multiplied by 2 and the denominator is reduced by 5, we get $\frac{6}{5}$. But, if the numerator of the given fraction is increased by 8 and the denominator is doubled we get $\frac{2}{5}$. Find the fraction.
10. If a room were 2 metre longer and 3 metre broader, its area would have increased by 75 sq. m. If it were one metre shorter and 2 metre broader, the area would have increased by 16 sq. m. Find its length and breadth.
11. There is a certain rectangular floor, such that if it had been two metre broader and three metre longer, it would have been 64 sq. unit larger. But if it had been three metre broader and 2 metre longer, it would have been 68 sq. metre larger. Find the length and breadth of the floor.
12. 7 audio cassettes and 3 video cassettes cost ₹1110. 5 audio cassettes and 4 video cassettes cost ₹1350. Find the cost of an audio cassette and a video cassette.
13. 2 tables and 3 chairs together cost ₹2,000 whereas 3 tables and 2 chairs together cost ₹2,500. Find the total cost of 1 table and 5 chairs.

1. Solve for x and y : (Elimination by substitution of either x or y) :

   (*i*) $2x+3y=17,\ \ 3x-2y=6$

   (*ii*) $2y-6=5x,\ \ y-x=9$

   (*iii*) $\frac{x+4}{2}=3,\ 2x+y=7$

   (*iv*) $\frac{7x-2}{3}=y=2,\ \ x-\frac{3}{7}y=\frac{8}{7}$

2. Solve by equating the coefficients for x and y :

   (*i*) $3x+2y+1=0,\ 2x-3y+8=0$

   (*ii*) $6x+9y=57,\ \ 9x+6y=48$

   (*iii*) $(a+b)x+(a-b)y=2ab,\ a\neq 0, b\neq 0,$
   $(a+b)x-(a-b)y=ab$

   (*iv*) $37x+71y=287,\ 71x+37y=253$

3. Find $\frac{x}{y}$ for the following system of equations :

   $$\frac{x}{6}+\frac{y}{4}=1,\ \ \frac{3x}{4}-\frac{x-y}{2}=5.$$

4. If $5x+4y=4$ and $x-12y=20$, find the values of $3x-2y$ and $\frac{7}{2}y-\frac{3}{7}x$.

5. The sum of the prices of an almirah and a table is ₹2,340 and the difference of their price is ₹ 140. Find the price of each.

6. Solve for x and y :

   (By adding and subtracting) :

   (*i*) $5x+31y=103,\ 31x+5y=77$

   (*ii*) $31x+43y=117,\ 43x+31y=105$

   (*iii*) $99x+101y=499,\ 101x+99y=501$

   (*iv*) $254x+309y=-55,\ 309x+254y=55$

7. 3 bags and 4 pens together cost ₹ 257whereas 4 bags and 3 pens together cost ₹ 324. Find the cost of 1 bag and 10 pens.

8. A railway half ticket costs half the full fare and the reservation charge is the same on half ticket as on full ticket. If one reserved first class ticket from Bombay to Ahmedabad costs ₹432 and one full and one half reserved first class tickets cost ₹654, what is the basic first class full fare and what is the reservation charge ?

9. Postcards costing 15 paise each and Inland letters costing 75 paise each were purchased for ₹33. Total number of postcards and Inland letters purchased was 60. If the number of postcards and inland letters is interchanged, find the cost.

10. The largest angle of a triangle is twice the sum of the other two, the smallest is one- fourth of the largest. Find the angles in degrees.

11. In a triangle, the sum of two angles is equal to the third. If the difference between them is 50°, find the angles.

12. The sum of the digits of a two digit number is 15. The number obtained by interchanging the digits exceeds the given number by 9. Find the number.