

MANJESH GUPTA

[B.Sc. (Math), B.Tech., GATE, NET]

MATH-ACCOUNT & SCIENCE TUTORIALS

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Assignment (chapter -3)

Class X

Note: - All questions are compulsory.

- Find the value of k for which pair of equations has no solution.
 - $kx+3y=k-2$ & $12x+ky=k$.
 - $5x - 3y - 7=0$ & $15x - 9y - k=0$.
 - $(k-3)x + 3y = k$ & $kx + ky = 12$.
 - $3x + y = 1$ & $(2k-1)x + (k-1)y = 2k+1$.
 - $(3k+1)x+3y-2=0$ & $(k^2+1)x + (k-2)y - 5=0$
- Solve the following equation.
 - $5/(x-1) + 1/(y-2) = 2$ & $6/(x-1) - 3/(y-2) = 1$.
 - $10/(x+y) + 2/(x-y) = 4$ & $15/(x+y) - 5/(x-y) = -2$.
 - $(a-b)x + (a+b)y = a^2 - 2ab - b^2$ & $(a+b)(x+y) = a^2 + b^2$.
 - $37x+43y=123$ & $43x+37y=117$.
 - $5/x + 1/y=2$ & $6/x - 3/y=1$.
 - $3/x+8/y= - 1$ & $1/x - 2/y = 2$.
 - $5/(x+y) - 2/(x-y) = -1$ & $15/(x+y) + 7/(x-y) = 10$.
 - $(7x-2y)/xy = 5$ & $(8x+7y)/xy = 15$.
 - $x/a + y/b = 2$ & $ax - by = a^2 - b^2$.
 - $a^2/x - b^2/y = 0$ & $a^2b/x + b^2a/y = (a+b)$.
 - $57/(x+y) + 6/(x-y) = 5$ & $38/(x+y) + 21/(x-y) = 9$.
 - $(x+1)/2 + (y-1)/3 = 8$ & $(x-1)/3 + (y+1)/2 = 9$.
 - $ax/b - by/a = a+b$, & $ax - by = 2ab$
- Find the value of k, a & b for which pair of equations has many solutions.
 - $kx + 3y = k-3$ & $12x + ky = k$.
 - $10x+5y - (k-5)=0$ & $20x + 10y - k=0$.
 - $(k-3)x + 3y = k$ & $kx + ky = 12$.
 - $3x + 2y=1$ & $(2k + 1)x + (k+2)y=k-1$.

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- $2x+3y=7$ &
 $(a+b+1)x + (a+2b+2)y = 4(a+b)+1$.
- $2x+3y=7$ & $2ax + (a+b)y=28$.
- $2x + 3y=2$ & $(k+2)x + (2k+1)y = 2(k-1)$
- $3x + 4y = 12$ & $(a+b)x + 2(a-b)y = 5a - 1$

- Solve the following equation by graphical method.
 - $x - y + 1=0$ & $4x + 3y = 24$.
 - $x + 2y = 5$ & $2x - 3y = - 4$ and find point where lines intersect on X-axis.
 - $x + 3y = 6$ & $2x - 3y = 12$ then find area surrounding by $x=0$, $y=0$ and $2x - 3y=12$.

- d) $3x + y - 12 = 0$ & $x - 3y + 6 = 0$, also find area surrounding by x-axis. Then find the ratio of area surrounding by x-axis and y-axis.
5. Find the number of solution of the following equation.
- $3x/2 + 5y/3 = 7$ & $9x - 10y = 14$.
 - $X + 3y - 8 = 0$ & $2x + 6y = 16$.
 - $2x + 4y = 14$ & $3x + 6y = 24$.

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6. Roohi travels 400km to her home partially by train and bus. She takes 4 hour 30 minutes if she travel half by train and half by bus. But if she travel 100km by train and remaining by bus, she

- take 15minutes longer. Find the speed of train and bus separately.
- 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 square units. Find the dimensions of the rectangle.
 - Place A and B are 100km apart on a highway. One car start from A and another from B at the same time. If the car travels 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?
 - A boat goes 30km upstream and 44km downstream in 10 hours. It can go 40km upstream and 55km downstream. Determine the speed of the stream and that of the boat in still water.
 - A man have coins of 20 paisa and 25 paisa if he have total 50 coins and cost is Rs11.25. then how much coins have he have every type.
 - 2 women and 5 men can together finish an embroidery work in 4 days, while 3women and 6maen can finish it in 3 days. Find the time taken by 1women alone to finish the work, also that taken by 1 man alone.
 - In a $\triangle ABC$, $\angle C = 3\angle B = 2(\angle A + \angle B)$. Find the three angles.
 - If a line is drawn parallel to one side of a triangle to intersect other two sides I distinct points, the other two sides are divided in the same ratio.
 - If the sum a two digit number and the number obtained by reversing the order of digits is 165. If the different of digits is 3. Find the number.
 - The age of father is three times of his son, 12 years later the age of father will be two times of his son. Find the age of father and his son.

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