

Q1 Solve the following:

- 1] Find t_n for the following A P
[a] 22,30,38,46,-----[b]10,16,22,28,-----
- 2] Find the sum of the numbers from 1 to 200 which are divisible by 8.
- 3] Meenakshi saved Rs 33000 in ten years. In each year after the first she saved Rs 200 more than she did in the preceding year. How much did she save in the first year?

Q2 Solve the following:

- 1] Solve the following quadratic equations by factorization method:
[a] $m^2+10m+24=0$ [b] $n^2+n-42=0$
- 2] Solve the following quadratic equation by completing square method
[a] $x^2-6x+2=0$ [b] $5y^2-4y-1=0$
- 3] Solve the following quadratic equations by formula method:
[1] $x^2-4x=3$ [b] $2y^2-7y+3=0$
- 4] The sum of the square of two consecutive odd natural numbers is 130. Find the number.
- 5] The product of two consecutive natural numbers is 42. Find the number.

Q3 Solve the following:

- 1] Solve the following simultaneous equations by the method of coefficients.
A] $x+y=3$, $x-y=-1$
B] $7m+5n = 56$, $7m = 42 - 3n$
C] $12x + 13y = 62$, $13x + 12y = 63$
- 2] Solve following simultaneous equations by the method of substitution.
A] $x+4y=15$, $5x-3y=6$
B] $6m-10=8n$, $m+39=19$

- 3] 5 pens and 6 pencils together cost RS 37 and 3 pen and 3 pencils together cost RS 21 find the cost of pen and pencils.
- 4] Express the following information in mathematical form using two variables [use variables x and y]
- A] The sum of two numbers is 57.
- B] The difference between two numbers is 40.
- 5] If $x=2$ and $y=5$ is the solution of $7x+ by= 54$ find the value of b.

Q4 Solve the following.

- 1] If $x \propto y$ and $x=20$ when $y=5$ find the constant of variation (b) the equation of variation.
- 2] y has direct proportion with x and $x=5$ when $y=12$ find (a) the value of y when $x= 9.5$ (b) the value of x when $y=72$.
- 3] If $x \propto 1/y$ complete the following table.

A]

X	36	12	9	-----
y	2	-----	8	24

B] If $m \propto 1/n$ complete the following table .

M	$1/2$	40	----	$1/3$
N	10	-----	20	-----

- 4] If x varies inversely as y and $x=33$ when $y=12$ find x when $y=11$.
- 5] Write the following statement by using the sign of variation.
- A] The mass (m) of an iron block has direct variation with its volume (v).
- B] The number of (N) of note books varies as the cost of note books .

Q5 Solve the following .

- 1] Find discount when

A] m.p = Rs 25 and s.p = Rs 23.50

B] m.p = Rs 1880 and s.p = Rs 1504

2] An agent sold goods worth Rs 13000 and gave Rs 12350 to his principal .

Find the rate of commission of the agent.

3] Mr . Somnath purchased a VCD player of Rs 6200 . The rate of central sales tax is 2% . Find the selling price of VCD player .(Discount is not given) .

4] Sundar enter prices purchased cosmetics for Rs 6000 and sold it to a customer for Rs 10000. find M-VAT paid at the rate of 12.5% by invoice method.

5] Calculate the education cess at the rate of 3% on the income tax for f.y.2012-13 as given below.

A] Rs 500

B] Rs 1800

C] Rs 2000