

- Q1. Expand $(3x-2y)^4$ [\therefore Ans $81x^4 - 216x^3y + 216x^2y^2 - 96xy^3 + 16y^4$]
- Q2. If the first three terms in the expansion of $(1+ax)^n$ in ascending power of x are $1+12x+64x^2$, find n and a [\therefore Ans $9, \frac{4}{3}$]
- Q3. Write down the expansion by the binomial theorem of $(3x-\frac{1}{2})^4$.
By giving x and y suitable values deduce the value of $(29.5)^4$ correct to four significant figure. [\therefore Ans $757300\dots$]
- Q4. Find the coefficient of x^5 in the expansion of $(1+2x)^6(1-x)^7$.
[Ans 171]
- Q5. Let n be a positive integer. If the coefficient of 2nd, 3rd, 4th terms in the expansion of $(1+x)^n$ are in A.P. find the value of n . [\therefore Ans 2]
- Q6. Write the middle term of the expansion $(x^2 - \frac{1}{x})^6$ [Ans $-20x^3$]
- Q7. Find the 4th term from the end of $(\frac{3}{x^2} - \frac{x^3}{6})^7$. [Ans $\frac{35}{48}x^6$]
- Q8. Find the term independent of x in the expansion of $(\frac{3x^2}{2} - \frac{1}{3x})^9$.
[\therefore Ans $7/18$]
- Q9. Write down the fourth term in the binomial expansion of $(px + \frac{1}{x})^n$.
If this term is independent of x , find the value of n . With this value of n , calculate the value of p given that the fourth term is equal to $\frac{5}{2}$. [\therefore ${}^nC_3 p^3 x^{n-6}$, $n=6$, $p=1/2$]
- Q10. In a binomial expansion, $(x+a)^n$, the first three terms are $1, 56, 1372$. find value of n and a . [\therefore $n=8$, $n=1$, $a=7$]