

- Write the first 6 rows of Pascal's triangle.
- Use Pascal's triangle to find the expansions of:
 - $(x + y)^5$
 - $(2x - 3)^6$
 - $(a + 2)^3$
- State the equation for ${}^n C_r$
- Express Pascal's triangle in terms of ${}^n C_r$.
- Expand
 - $(2 - 3x)^{10}$
 - $(x^2 + 3)^6$
 - $(2x - 5y)^5$
 - $(1 + \frac{x}{4})^4$
 - $(\frac{2}{x} - \frac{x}{2})^5$
- Find the coefficient of the x^3 term for $(x + 1)(2x + 4)^8$
- Find the coefficient of the x^4 and x^3 terms for the expression $(x^2 - x + 1)(5 - 2x)^{10}$
- Find the maximum coefficient for $(3x + 5)^{10}$ without expanding.
- Find the first 3 terms of the equation $(1 + x + x^2)^9$
- Expand $(3 + \sqrt{2})^5$ using the binomial and give the answer in the form $a + b\sqrt{2}$
- Use the binomial expansion to evaluate $(96)^4$
- Find the full expansion of $(a + b)^4 - (a - b)^4$ and hence evaluate $(\sqrt{3} + \sqrt{2})^4 - (\sqrt{3} - \sqrt{2})^4$.
- Find the middle terms in $(\frac{x}{3} + 9y)^{10}$
- Find the positive value of m for which the coefficient of x^2 in $(x + 1)^m$ is 6.
- Find a if the coefficients of x^2 and x^3 in the expansion of $(3 + ax)^9$.
- Find an approximation of $(0.99)^5$ using the first three terms of a binomial expansion.
- Expand using binomial expansion, the equation $(1 + \frac{x}{2} - \frac{2}{x})^4$
- The first three terms in the binomial expansion of $(1 + ax)^n$ are $1 + 2x + \frac{5}{3}x^2$. Find the value of n and the value of a .