

Binomial 2 Questions

- ③ Work out the first three terms in ascending powers of x in the expansion of $(1 + x)^6$.
- ④ Work out the first three terms in descending powers of x in the expansion of $(2 + x)^7$.
- ⑤ Work out the coefficient of the x^3 term in the expansion of $(4 - 3x)^5$.
- ⑥ Write down the second number in the 10th row of Pascal's triangle.
- ⑦ Write down the last number in the 19th row of Pascal's triangle.
- ⑧ Write down the third number in the 9th row of Pascal's triangle.
- ⑨ Expand $\left(3x^2 + \frac{1}{x}\right)^4$.
- ⑩ (i) Expand $(1 + 2x)^5$.
(ii) Hence write down the expansion of $(1 - 2x)^5$.
(iii) Hence simplify $(1 + 2x)^5 - (1 - 2x)^5$.
- ⑪ (i) Expand $(3 + w)^3$.
(ii) Hence, by replacing w with $x + 2y$, write down the expansion of $(3 + x + 2y)^3$.
- PS** ⑫ The simplified expansion of $(mx + y)^n$ includes the term $240x^2y^4$.
(i) Write down the value of n .
(ii) Hence work out the possible values of m .
(iii) Hence work out the coefficient of the x^4y^2 term.
- PS** ⑬ In the expansion of $\left(x + \frac{2}{x}\right)^6$ work out the term which is independent of x .
- PS** ⑭ Given that the 10th row of Pascal's triangle is
1, 10, 45, 120, 210, 252, 210, 120, 45, 10, 1,
work out the coefficient of x^2 in the expansion of $\left(x - \frac{2}{x}\right)^{10}$.
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