

CLASS 11

MATHS

EXTRA QUESTIONS

Class 11 Maths Chapter 7 Binomial Theorem – Extra Questions with Answers

Extra practice questions for Class 11 Maths Chapter 7 (Binomial Theorem), beyond the textbook. These Class 11 Maths Chapter 7 important questions are handy for last-minute exam practice.

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Very Short Answer Questions (1 mark)

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Class 11 Maths Chapter 7 – Solutions and Notes

Extra practice questions for Class 11 Maths Chapter 7 (Binomial Theorem), beyond the textbook. These Class 11 Maths Chapter 7 important questions are handy for last-minute exam practice.

Very Short Answer Questions (1 mark)

Q1. How many terms are in the expansion of $(x+y)^5$?

Ans: 8 terms $(7+1)$.

Q2. Find 4C_2 , the coefficient of the middle term in $(a+b)^4$.

Ans: $4!/[2!2!] = 6$.

Q3. Expand $(a+b)^2$ using the binomial theorem.

Ans: $a^2+2ab+b^2$.

Q4. What is the sum of binomial coefficients for $(a+b)^4$?

Ans: $2^4 = 16$.

Q5. In $(a+b)^5$, is 7C_2 equal to 7C_5 ?

Ans: Yes, by the symmetry property ${}^nC_k = {}^nC_{n-k}$ ($7-2=5$).

Short Answer Questions (2–3 marks)

Q6. Expand $(x+2)^3$ using the binomial theorem, showing each term.

Ans: ${}^3C_0x^3+{}^3C_1x^2(2)+{}^3C_2x(2)^2+{}^3C_3(2)^3 = x^3+3(2)x^2+3(4)x+8 = x^3+6x^2+12x+8$.

Q7. Find the 4th term in the expansion of $(x+y)^5$, using the general term formula.

Ans: $T_4 = T_{3+1}$, so $k=3$: $T_4 = {}^5C_3 x^{5-3} y^3 = 35x^2y^3$.

Q8. Find the middle term(s) of the expansion of $(a+b)^6$ ($n=6$, even).

Ans: Since $n=6$ is even, there is one middle term: the $((6/2)+1) = 4$ th term. $T_4 = {}^6C_3 a^3b^3 = 20a^3b^3$.

Higher-Order Thinking / Application Questions

Q9. Using the binomial theorem, find the value of $(1.02)^4$ correct to 4 decimal places, by expressing 1.02 as $(1+0.02)$ and using only the first three terms (ignoring higher-order terms as negligible).

Ans: $(1+0.02)^4 \approx {}^4C_0(1)^4 + {}^4C_1(1)^3(0.02) + {}^4C_2(1)^2(0.02)^2 = 1 + 4(0.02) + 6(0.0004) = 1 + 0.08 + 0.0024 = 1.0824$.

Q10. Explain why the coefficients in row n of Pascal's Triangle sum to 2^n , connecting this to the binomial theorem with $a=b=1$.

Ans: Substituting $a=1$, $b=1$ into the binomial theorem: $(1+1)^n = \sum {}^nC_k(1)^{n-k}(1)^k = \sum {}^nC_k = {}^nC_0+{}^nC_1+\dots+{}^nC_n$. Since $(1+1)^n = 2^n$, this directly shows that the sum of all binomial coefficients (the entries in row n of Pascal's Triangle) must equal 2^n .

Class 11 Maths Chapter 7 – Solutions and Notes

For complete step-by-step answers and a quick summary, check the [Class 11 Maths Chapter 7 Solutions](#) and [Class 11 Maths Chapter 7 Revision Notes](#).

See also: [Chapter 2](#) | [Chapter 3](#) | [Chapter 4](#) | [Chapter 5](#) | [Chapter 6](#) | [Chapter 7](#)

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