

Worksheet: Binomial Theorem

ISC · Class 11 · Mathematics · 9 questions · 31 marks

Name: _____	Date: _____	Score: _____ / 31
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Q1. Write down row 6 of Pascal's triangle, and state the value of C_n . *[2 marks]*

Q2. Expand $(x - 1)^4$ using the Binomial Theorem. *[2 marks]*

Q3. Expand $(2x + 3)^5$ using the Binomial Theorem. *[3 marks]*

Q4. Using the Binomial Theorem, evaluate $(102)^4$. *[4 marks]*

Q5. If the sum of the binomial coefficients in the expansion of $(1+x)^7$ is required, find its value. *[3 marks]*

Q6. Find the sum of the coefficients at the even positions ($C_0 + C_2 + C_4 + C_6$) in the expansion of $(1+x)^8$. *[3 marks]*

Q7. Using the first three terms of its binomial expansion, find an approximate value of $(1.01)^6$. [4 marks]

Q8. Using the Binomial Theorem, show that $7^n - 6n - 1$ is divisible by 36 for every positive integer n . [5 marks]

Q9. Find $(x+1)^5 - (x-1)^5$. Hence evaluate $(3+1)^5 - (3-1)^5$. [5 marks]
