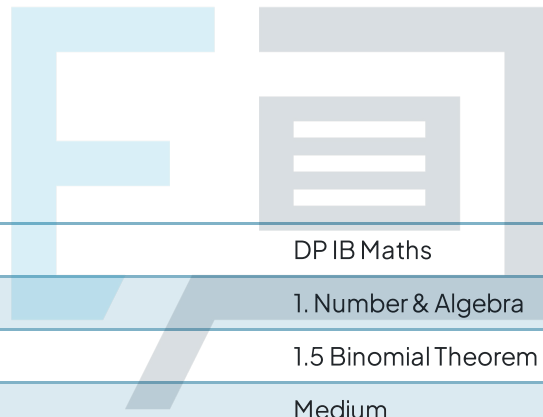




1.5 Binomial Theorem

Question Paper



Course	DP IB Maths
Section	1. Number & Algebra
Topic	1.5 Binomial Theorem
Difficulty	Medium

Exam Papers Practice

To be used by all students preparing for DP IB Maths AA SL
Students of other boards may also find this useful

Question 1

Find the coefficient of the term in x^3 in the expansion of $(2 - x)^8$.

[3 marks]

Question 2

Find the first three terms, in ascending powers of x , in the expansion of $(3 + x)^4$.

[3 marks]

Question 3

In the expansion of $(a - x)^4$, the coefficient of the x^2 term is 96.

Given that $a > 0$, find the value of a .

[4 marks]

Question 4

Find the first three terms, in ascending powers of x , in the expansion of $(9 - 2x)^5$.

[3 marks]

Question 5

In the expansion of $(a - 2x)^5$, the coefficient of the x^2 term is equal to the coefficient of the x^3 term. Find the value of a .

[4 marks]



Exam Papers Practice

Question 6

In the expansion of $(3 + px)^6$, the coefficient of the x^4 term is four times the coefficient of the x^2 term. Find the possible values of p .

[3 marks]

Question 7a

Consider the expansion of $(4ax - 3)^5$.

Write down the number of terms in this expansion.

[1 mark]

Question 7b

The coefficient of the term in x^4 is -61440 .

Find the value of a where a is a positive constant.

[4 marks]



Exam Papers Practice

Question 8a

Consider the expansion of $\left(x^3 + \frac{4}{x}\right)^4$.

Write the first three terms in descending powers of x .

[3 marks]

Question 8b

Find the value of the constant term.

[3 marks]

Question 9

The coefficient of x^7 in the expansion of $x^3(ax + 3)^5$ is 1215.

Find the possible values of a .

[4 marks]



Exam Papers Practice