

CHAPTER 8 – BINOMIAL THEOREM

Focus Area Based Questions

1. a) Write the expansion of $(a+b)^n$.
 b) Find the coefficient of x^5y^7 in the expansion of $(x - 2y)^{12}$.
 c) Show that $9^{n+1} - 8n - 9$ is divisible by 64.

2. Write the expansion of $\left(x^2 + \frac{3}{x}\right)^4$

3. a) The number of terms in the expansion of $(x+a)^9 = \dots\dots\dots$
 b) Find $(a+b)^4 - (a- b)^4$
 c) Hence evaluate $(\sqrt{3} + \sqrt{2})^4 - (\sqrt{3} - \sqrt{2})^4$

4. Consider the expansion of $\left(x + \frac{1}{x}\right)^{10}$
 (a) The number of terms in the expansion is
 b) Find the term which is independent of x in the above expansion.

5. a) Write the expansion of $(a+b)^4$
 b) Evaluate $(\sqrt{5} + \sqrt{6})^4 + (\sqrt{5} - \sqrt{6})^4$

6. a) The 8th term in the expansion of $(\sqrt{3} + \sqrt{2})^7$
 b) Find the term which is independent of x in the expansion
 $\left(x + \frac{1}{2x}\right)^{18} ; x > 0$

7. Find the coefficient of x^6y^3 in the expansion of $(x + 2y)^9$.
8. Find the general term in the expansion of $(x^2 - yx)^{12}$, $x \neq 0$
9. a) Write the general term in the expansion of $\left(3x^2 - \frac{1}{3x}\right)^9$.
b) Find the term independent of x in the above expansion.

BINOMIAL THEOREM FOCUS AREA VIDEO LINK :

<https://youtu.be/l6NRUUMIZpE>