1 Find and simplify the binomial expansion of $(3x-2)^4$. **[4]**

2 Find the coefficient of x^4 in the binomial expansion of $(5+2x)^7$. **[4]**

3 Find the coefficient of x^3 in the binomial expansion of $(2-4x)^5$. **[4]**

4 The binomial expansion of $\left(2x+\frac{5}{x}\right)^6$ has a term which is a constant. Find this term. **[4]**

5 **(i)** Evaluate ${}^5C_3$. **[1]**

(ii) Find the coefficient of x^3 in the expansion of $(3-2x)^5$. **[4]**

6 Find the coefficient of x^4 in the binomial expansion of $(5+2x)^6$. **[4]**

7 Find the first 3 terms, in ascending powers of x, of the binomial expansion of $(2-3x)^5$, simplifying each term. **[4]**

8 You are given that

- the coefficient of x^3 in the expansion of $(5 + 2x^2)(x^3 + kx + m)$ is 29,
- when $x^3 + kx + m$ is divided by $(x - 3)$, the remainder is 59.

Find the values of k and m. **[5]**

9 Expand $\left(1 + \frac{1}{2}x\right)^4$, simplifying the coefficients. **[4]**

10 Find the binomial expansion of $\left(x + \frac{5}{x}\right)^3$, simplifying the terms. **[4]**

11 **(i)** Calculate ${}^5C_3$. **[2]**

(ii) Find the coefficient of x^3 in the expansion of $(1 + 2x)^5$. **[2]**

12 **(i)** Find the coefficient of x^3 in the expansion of $(x^2 - 3)(x^3 + 7x + 1)$. **[2]**

(ii) Find the coefficient of x^2 in the binomial expansion of $(1 + 2x)^7$. **[3]**

13 Find the coefficient of x^3 in the binomial expansion of $(5 - 2x)^5$. [4]

14 **(i)** Find the value of ${}^{8}C_{3}$. [2]

(ii) Find the coefficient of x^3 in the binomial expansion of $\left(1 - \frac{1}{2}x\right)^8$. [2]

15 Find the coefficient of x^3 in the expansion of $(3 - 2x)^5$. [4]

16 Calculate the coefficient of x^4 in the expansion of $(x + 5)^6$. [3]

17 Calculate ${}^{6}C_{3}$.

Find the coefficient of x^3 in the expansion of $(1 - 2x)^6$. [4]

18 Find the binomial expansion of $(2 + x)^4$, writing each term as simply as possible. [4]