

1. Consider the expansion of  $(x + 2)^{11}$ .

(a) Write down the number of terms in this expansion.

(1)

(b) Find the term containing  $x^2$ .

(4)

(Total 5 marks)

2. Find the term in  $x^4$  in the expansion of  $\left(3x^2 - \frac{2}{x}\right)^5$ .

(Total 6 marks)

3. Find the term in  $x^3$  in the expansion of  $\left(\frac{2}{3}x - 3\right)^8$ .

(Total 5 marks)

4. Consider the expansion of the expression  $(x^3 - 3x)^6$ .

(a) Write down the number of terms in this expansion.

(b) Find the term in  $x^{12}$ .

(Total 6 marks)

5. Consider the expansion of  $\left(3x^2 - \frac{1}{x}\right)^9$ .

(a) How many terms are there in this expansion?

(b) Find the constant term in this expansion.

<p><i>Working:</i></p>	<p><i>Answers:</i></p> <p>(a) .....</p> <p>(b) .....</p>
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**(Total 6 marks)**

6. Determine the constant term in the expansion of  $\left(x - \frac{2}{x^2}\right)^9$ .

<p><i>Working:</i></p>	<p><i>Answer:</i></p> <p>.....</p>
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**(Total 4 marks)**