Exercise 1

Paper 1 style · No calculator

1 5 marks SL 1.9 ●○○ Routine

Consider the expansion of $(3+x)^4$.

(a) Expand $(3+x)^4$ in ascending powers of x, simplifying each term. **[3]**

(b) Hence find the coefficient of x^2 in the expansion of $(3+x)^4(1+2x)$. **[2]**

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MARKSCHEME (a)

coefficients 1, 4, 6, 4, 1 **(M1)**

$81+108x+54x^2+12x^3+x^4$ **A2**

Total 3 marks

Note A1 for three correct terms.

MARKSCHEME (b)

$54\times 1+108\times 2$ **(M1)**

$=270$ **A1**

Total 2 marks

Note The two ways of making x^2.