

5 The binomial expansion of $(2 + 5x)^4$ is given by

$$(2 + 5x)^4 = A + 160x + Bx^2 + 1000x^3 + 625x^4$$

5 (a) Find the value of A and the value of B .

[2 marks]

5 (b) Show that

$$(2 + 5x)^4 - (2 - 5x)^4 = Cx + Dx^3$$

where C and D are constants to be found.

[2 marks]

5 (c) Hence, or otherwise, find

$$\int \left((2 + 5x)^4 - (2 - 5x)^4 \right) dx$$

[2 marks]