

**4 (a)** Find the binomial expansion of  $(1 - 2x)^5$  in ascending powers of  $x$  up to and including the term in  $x^2$

**[2 marks]**

**4 (b)** Find the first two non-zero terms in the expansion of

$$(1 - 2x)^5 + (1 + 5x)^2$$

in ascending powers of  $x$ .

**[2 marks]**

**4 (c)** Hence, use an appropriate value of  $x$  to obtain an approximation for  $0.998^5 + 1.005^2$

**[2 marks]**