1   (i)   Express $2x^2 - 12x + 23$ in the form $a(x + b)^2 + c$.   [4]

  (ii)   Use your result to show that the equation $2x^2 - 12x + 23 = 0$ has no real roots.   [1]

  (iii)   Given that the equation $2x^2 - 12x + k = 0$ has repeated roots, find the value of the constant k.   [2]