25. Give as good a big-O estimate as possible for each of these functions.
   a) \((n^2 + 8)(n + 1)\)  
   b) \((n \log n + n^2)(n^3 + 2)\)  
   c) \((n! + 2^n)(n^3 + \log(n^2 + 1))\)

26. Give a big-O estimate for each of these functions. For the function \(g\) in your estimate \(f(x) = O(g(x))\), use a simple function \(g\) of smallest order.
   a) \((n^3 + n^2 \log n)(\log n + 1) + (17 \log n + 19)(n^3 + 2)\)
   b) \((2^n + n^2)(n^3 + 3^n)\)
   c) \((n^n + n2^n + 5^n)(n! + 5^n)\)

27. Give a big-O estimate for each of these functions. For the function \(g\) in your estimate that \(f(x) = O(g(x))\), use a simple function \(g\) of the smallest order.
   a) \(n \log(n^2 + 1) + n^2 \log n\)
   b) \((n \log n + 1)^2 + (\log n + 1)(n^2 + 1)\)
   c) \(n^{2^n} + n^n\)

30. Show that each of these pairs of functions are of the same order.
   a) \(3x + 7, x\)
   b) \(2x^2 + x - 7, x^2\)
   c) \([x + 1/2], x\)
   d) \(\log(x^2 + 1), \log x\)
   e) \(\log_{10} x, \log_2 x\)