6 The first four terms in ascending powers of x in the expansion $(3+ax)^4$ can be written as $81+bx+cx^2+\frac{3}{2}x^3$. Find the values of the constants a, b and c. [6]

7 Given that ${}^nC_4 = 13\times {}^nC_2$, find the value of ${}^nC_8$. [5]