1. Find . (personal note: I think the approach is to use l’Hopital’s rule)
2. Prove that ***e*** is irrational. (hint: Suppose false, so that ***e*** = where p,q . Write **,** multiple both sides by n! and deduce a contradiction when n is sufficiently large).
3. Expand the polynomial as a polynomial in powers of (x-1): That is, show that and find the values of the constants