6 **(a)** **(i)** Find how many different 5-digit numbers can be formed using the digits 1, 3, 5, 6, 8 and 9. No digit may be used more than once in any 5-digit number. [1]

(ii) How many of these 5-digit numbers are odd? [1]

(iii) How many of these 5-digit numbers are odd and greater than 60 000? [3]

(b) Given that $45 \times {}^{n}\mathrm{C}_{4} = (n+1) \times {}^{n+1}\mathrm{C}_{5}$, find the value of n. [4]