4. The 11 letters of the word 'ENGINEERING' are arranged in equiprobable ('random') order. Find:

MARKS

8

(2, 1, 3, 2)

(a) the number of **distinguishable** arrangements;

(b) the probability the letters spell 'ENGINEERING';

(c) the probability the arrangement begins and ends with the **same** letter;

(d) the probability the G's are **not** beside each other.

(a)

                (a)

Arrangements

(b)

                (b)

Probability

(c)

                (c)

Probability

(d)

                (d)

Probability