

COUNTING & PROBABILITY (Q 6, PAPER 2)

2008

6 (a) Evaluate $5! + 6!$

(b) One shelf of a school library has 70 books. The books are on poetry and on drama and are either hardback or paperback.

The following table shows the number of each type.

	Hardback	Paperback
Poetry	23	17
Drama	14	16

A student selects one book at random from the shelf.

Find the probability that the book selected is

(i) a paperback poetry book

(ii) a hardback book

(iii) a poetry book

(iv) not a paperback drama book.

(c) There are 6 junior-cycle students and 5 senior-cycle students on the student council in a particular school.

A committee of 4 students is to be selected from the students on the council.

In how many different ways can the committee be selected if

(i) there are no restrictions

(ii) a particular student must be on the committee

(iii) the committee must consist of 2 junior-cycle students and 2 senior-cycle students.

The committee of 4 students is chosen at random.

(iv) Find the probability that all 4 students are junior-cycle students.

ANSWERS

6 (a) 840

(b) (i) $\frac{17}{70}$ (ii) $\frac{37}{70}$ (iii) $\frac{4}{7}$ (iv) $\frac{27}{35}$

(c) (i) 330 (ii) 120 (iii) 150 (iv) $\frac{1}{22}$