

NAAM:

STUDENTE #

**Toegepaste Wiskunde 314**

**Tutoriaal-toets 11a: Donderdag 20 Mei 2004**

(1) Let  $C$  be a linear  $[n, k]$ -code over  $GF(q)$  with generator matrix  $G$ .

(a) Define the dual  $C^\perp$  of  $C$ .

(b) Prove that  $\mathbf{v} \in C^\perp$  if and only if  $\mathbf{v}G^T = \mathbf{0}$ .