

## Quiz Seven

**No notes. No calculators.**

Write clearly and explain your reasoning.

You need not simplify your answers.

Student Number:

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1 (10 points) There is an urn containing 40 ping-pong balls: 10 balls of each of four colours (red, yellow, green, and blue). The 10 balls of each colour are numbered 1 through 10. (Thus, for each number, there are four balls – one of each colour – with that number.)

(a) (4 points) How many ways are there to pick two different balls from this urn so that the first ball is red and the second ball is not green?

(b) (6 points) How many ways are there to pick two different balls from this urn so that the first ball is red and the second ball is not numbered 9? (Be careful of the red 9!)

2 (10 points) How many ways can a committee be formed from four men and five women with...

(a) (5 points) At least two men, and more women than men?

(b) (5 points) Four people, but not both the two men named Peter? (One Peter can be on a committee, but not both Peters.)