## Geometry I — Homework 1 — Due 14th Oct

- 1. Write down the negation of each of the following statements:
  - All people living in Neasden have black hair.
  - Some TV programmes are good.
  - Jeremy Clarkson and Amy Winehouse are shy.
  - Donald Duck always wears glasses and a hat.
  - There is a tree in England whose number of leaves is not equal to the number of words in any book.
  - There is a lecture room such that, for any time of day, there are students able to attend lectures at that time who cannot fit into the room.
  - All triangle have three sides.
  - Given a line l, a point P in l and a number n > 0 there exactly two points in l at distance n from P.
- 2. Explain why each of the second statements does not follow from the premise.
  - All roads going south lead to Rome. This road goes west and therefore does not lead to Rome.
  - Most Italians like football. Mario is Italian therefore he likes football.
- 3. Use Postulate 1 to prove the following: Given a line l, a point P in l and a number n > 0 there exist exactly two points in l at distance n from P.