MA-111 Mathematics for Finance
Tutorial Sheet 1

1) Find the simple interest on €35 for 18 months at 12% per annum.

2) Express August 17 to December 8 in years for computing
   a) ordinary interest and
   b) exact interest

3) Find the ordinary interest by the 6% for 60 days method of €2,880 at 5½% for 40 days.

4) If the exact interest is €5.04, find the ordinary interest.

5) At what interest rate will €360 yield €27 in 2½ years?

6) €1000 is deposited on 7th April at 6% simple interest, and the money is withdrawn on 22nd November. Find the interest earned on each of the following bases:
   a) the exact length of time of the deposit as a proportion of a (non-leap) year;
   b) ordinary simple interest (counting 30 days for each month);
   c) the Bankers' Rule.

7) What is the present value of €1000 due in two years if the money is worth 7%? How much is the simple discount?

8) On April 25th, 2000, Gloria South borrowed €4000 at 4% interest. She paid €1000 on June 24th, €500 on July 24th, €5 on August 23rd, and €2000 on September 22nd. Find the balance due November 21st, 2000 by the Merchants' Rule and by the United States Rule.

9) €500 is borrowed at 5% simple interest. The loan is to be repaid in 3 equal instalments due in 3 months, 6 months and 9 months. Find the size of each payment, if the comparison date is i) in 9 months and ii) now.

10) When will a single payment of €2200 discharge the debts of a) €500 due in four months, b) €1000 due in six months, and c) €650 due in eight months? Assume the money is worth 9%.