

Exercise 2015-11 EF-00007(1) Financial Mathematics – Time frames

- (1) Rusty applies for a loan of R26 500 and agrees to repay the total outstanding amount, in 54 months' time. The interest on the loan is calculated quarterly at 15% pa. Rusty receives his bonus after 18 months and decides to repay R6 000 of his loan. After a further two years Rusty repay another R11 000 of his loan. Calculate the total outstanding amount of the loan that Rusty owes after the 54 months.

- (2) R36 000 is invested for 6 years. The interest rate for the first two years is 8% pa semi-annually compounded. After two years the interest rate changes to 6% pa monthly compounded for the next year. For the last three years, the interest rate changes once again is 8% pa quarterly compounded. Calculate the accumulated amount after the 6 years.

- (3) André invests R40 000 in the money market for 5 years. After five years he decides to invest the total earnings as well as another R20 000 for a further three years. For the first 3 years the interest rate is fixed at 9% pa half yearly compounded after which the interest rate changes to 9,6% pa quarterly compounded for the rest of the period. Calculate the total earnings for André after 8 years.