

Grade 12 Mathematical Literacy: Finance Study Guide

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Free Study Resources for South African Matric Learners

1. Simple & Compound Interest

Simple Interest: $A = P(1 + i \cdot n)$

Compound Interest: $A = P(1 + i)^n$

Where: A = final amount, P = principal, i = interest rate (decimal), n = period

Nominal vs Effective: Effective rate accounts for compounding within year

Example: R10 000 invested at 8% per year for 3 years.

Simple: $A = 10000 \times (1 + 0.08 \times 3) = R12\ 400$

Compound: $A = 10000 \times (1.08)^3 = R12\ 597.12$

2. Hire Purchase & Loans

Hire Purchase: simple interest on full purchase price for the full term (not reducing balance).

Home loans and car loans use compound interest (reducing balance method).

- Total cost of HP = Deposit + (Monthly instalment $\times$ number of months)
- Total interest on HP = Total cost - Cash price
- Monthly instalment = Total owing (cash price - deposit + total interest) / number of months

3. Income & Taxation

Income Tax (SARS)

- Gross income: all earnings before deductions
- Taxable income: gross income minus allowable deductions (pension, medical credits)
- Use the tax table (brackets) to calculate tax owed
- Rebates: primary rebate for all taxpayers; additional rebates for age 65+
- PAYE: Pay As You Earn - tax deducted monthly from salary
- Net pay = Gross pay - Income tax (PAYE) - UIF - Pension contribution - Medical aid

VAT (Value Added Tax)

Price including VAT: Price excl. $\times$ 1.15 (at 15% VAT rate)

Excl. VAT from total: Total price / 1.15

VAT amount: Total price - (Total price / 1.15)

4. Exchange Rates

Exchange rate: value of one currency in terms of another.

Example: R1 = \$0.056 (or \$1 = R17.86)

- To convert Rands to foreign: Rands / exchange rate (R per \$)
- To convert foreign to Rands: foreign amount $\times$ exchange rate (R per \$)
- Always check which rate applies (buying or selling rate at bank)

TIP In exams, show ALL steps of your calculation. Even if your final answer is wrong, you can earn method marks.
Write formulas before substituting values.