

**FINANCE: CALCULATIONS****11 AUGUST 2014****Lesson Description**

In this lesson we:

- Focus on the following:
  - Compound interest calculations
  - Inflation
  - Timelines
  - Changing interest rates

**Summary****Inflation**

- Is the average increase in the cost of goods and services over a period of time
- We use the compound interest formula to calculate inflation

**Timelines**

- Is a visual representation of a financial problem
- Very useful when there are several deposits/withdrawals and changing interest rates

**Changing Interest Rates**

- Generally interest rates will fluctuate over time

**Test Yourself****Question 1**

A house costs R400 000. If the increase in the cost of housing keeps pace with an average rate of inflation of 7,1% p.a., calculate the cost of the house in 20 years.

- A) R1 078 000.52
- B) R1 864 023.21
- C) R 1 256 892.56
- D) R1 577 064.33

**Question 2**

The current price of a loaf of white bread is R11,50. The average rate of inflation over the last 10 years was 7,3%. How much did a loaf of white bread cost 10 years ago?

- A) R2.72
- B) R4.56
- C) R5.68
- D) R 7.34

**Question 3**

At present, there are 350 breeding pairs of a certain type of eagle left in South Africa. If the conditions are favourable, the number of breeding pairs will increase by 4% annually. How many breeding pairs will there be after 10 years?

- A) 518
- B) 615
- C) 350
- D) 700

**Question 4**

Lerato wants to buy a second-hand car for R49 999. She has R20 000 to put towards a deposit. The balance is to be paid over 36 months in equal payments at a simple interest rate of 12% p.a. True or false Lerato will be able to afford the monthly payments if she can only pay R1 000 per month.

**Improve your Skills****Question 1**

Dave invests R 4600 for 4 years at 10%p.a. simple interest. Thereafter he invests the accumulated amount for another 2 years at 12%p.a. compound interest. How much money will he have saved at the end of the 6 year period?

**Question 2**

A union leader says salaries have to double every seven years to keep up with the rate of inflation. What average yearly rate of inflation does he imply?

**Question 3**

Mr Mabusa borrows R450 000 to start his new business. He repays the loan in four equal instalments one year after the loan was granted. Calculate his annual repayments if the interest charged on the outstanding balance is 10% p.a. compounded annually.