

**Personal  
Finances**

**AS – 12.1.3 12.1.2 12.1.1**

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## Would you like to Control your Finances?



**Make sure you understand ...**

Issues that affect personal finances such as taxation, retirement planning, changing interest rates on credit, investment and the ability to not be in debt.

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2. Shariff drives a tourist bus each Saturday and gets R315 for this. SARS instructs the Tourist Company to take off 25% for tax as it is extra income.

What is the net income that Shariff receives each Saturday?

Income =  $\frac{75}{100} \times 315$   
= R240

The Company gives Shariff an increase to compensate for the tax that has to be paid.

What is the total cost to the company per week?



New cost =  $\frac{315}{75} \times 100$   
= R420

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3. Shariff buys a flat for R300 000 (the market value).  
What will the rates and taxes be, per month, if the municipality charges rates at 1,295c in the Rand p.a. on the market value?



$$\begin{aligned} \text{Rates} &= 0,01295 \times 300000 \\ &= \text{R}3\ 085 \\ \text{Rates p.m.} &= \text{R}323,75 \end{aligned}$$

What will the insurance be, per month, if the homeowner's insurance p.a. is calculated at R0,55 per R100 on the market value?

$$\begin{aligned} \text{Insurance p.m.} &= 0,55 \times \frac{300000}{100} \div 12 \\ &= \text{R}137,50 \end{aligned}$$

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4. Shariff's Municipality bills him for water (excluding VAT) as follows:



First 6 kl Free  
6 – 10 kl R3,99 per kl  
10 – 25 kl R5,25 per kl  
25+ kl R8,15 per kl

How much VAT does he pay if he uses 29 kl of water?

$$\begin{aligned} \text{Costs} &= 6 \times 0 + 4 \times 3,99 + 15 \times 5,25 + 4 \times 8,15 \\ &= R127,31 \\ \text{VAT} &= \frac{14}{100} \times 127,31 \\ &\approx R17,82 \end{aligned}$$

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**Saving Options**

Instead of a single lump sum investment you can invest in an **annuity**.

An **annuity** is a number of **equal payments** made at **regular intervals** (monthly, quarterly etc.) subject to a rate of interest for a period of time.

 Annuity Formula:  $A = P[(1+i)^n - 1] \div i$

Another option is to invest in the **stock exchange** and buy a certain no. of shares e.g. unit trusts. These shares can be sold at any time but you need to be **careful** as sometimes the shares decrease in value and you may lose money.

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3. Abdul bought 2 000 unit trust shares at R1,38 per share. They are now worth R3,17 per share. He had the shares for 6 months.

How much did Abdul pay for the shares?

$$\begin{aligned} \text{Cost} &= 2000 \times \text{R}1,38 \\ &= \text{R}2\,760 \end{aligned}$$

What was the % increase per share?

$$\begin{aligned} \text{Increase} &= \frac{1,79}{1,38} \times 100 \\ &\approx 129,71\% \end{aligned}$$

If he chooses to sell the shares now, how much does he get for his shares and what is his profit?

$$\begin{aligned} \text{Sell} &= 2000 \times \text{R}3,17 = \text{R}6\,340 \\ \text{Profit} &= \text{R}6340 - \text{R}2760 = \text{R}3\,580 \end{aligned}$$

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## The Best Rate

Interest can be compounded daily, monthly, quarterly etc. To make a fair **comparison** when the compounding periods are different we must convert the interest rates to their equivalent **effective annual rate** using,  $E = [(1 + i)^n - 1]$ .

Emily bought a laptop using her credit card. The

**The effective rate of an investment will always be higher than the given interest rate p.a., when interest is compounded more than once per year.**

 **e.g.**

$$E = (1 + \frac{22}{36500})^{365} - 1$$
$$\approx 0,24599$$

Rate %  $\approx 24,6\%$

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Which is the best interest rate for a guaranteed fixed deposit savings offered by U-Bank?

Plan A – 5,50% p.a. compounded annually  
Plan B – 5,45% p.a. compounded semi-annually  
Plan C – 5,35% p.a. compounded monthly.

PLAN A: rate % = 5,5%

PLAN B:  
 $E = (1 + 5,45/200)^2 - 1$   
 $\approx 0,055242$   
rate % = 5,52%

PLAN C:  
 $E = (1 + 5,35/1200)^{12} - 1$   
 $\approx 0,054831$   
Rate % = 5,48%

Plan B is the best

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## Balancing the numbers

Bank statements or account summaries are written records of what happens to your savings, loan, credit card spending etc. It is important to keep track of the balances in your different accounts.



You took a loan from the bank for R4000. Interest is calculated on the outstanding balance at the end of each month. The bank statement shows R38,33 charged for interest after the 1<sup>st</sup> month.

What is the annual interest that the Bank charges?

$$\frac{38,33}{4000} \times 100 \times 12 \approx 11,5\%$$

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1. Shariff has a Chargmee credit card. He received this statement. 

Date	Balance b/f	Pay-ments (-)	Cash advances (+)	Pur-chases (+)	Inter-est (+)	New balance
Jun 24	243,74	50,00				193,74
Jul 3				175,60		369,34
Jul 7			150,00			519,34
Jul 24					4,13	523,47

What do the (+) signs in the columns mean?  
 Is the new balance of R523,47 correct?  
 The amount must be added onto how much you owe the card company.

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Date	Balance b/f	Payments	Cash advances	Purchases	Interest	New balance
Jun 24	243,74	50,00				193,74
Jul 3				175,60		369,34
Jul 7			150,00			519,34
Jul 24					4,13	525,47

Interest is 18% p.a. compounded daily on the unpaid balance from the previous statement & cash advances. Interest is not charged on purchases made during the current month.

Show how the interest of R4,13 was determined.

$$\text{Interest} = 193,74 \times \frac{18}{36500} \times 13 + 343,74 \times \frac{18}{36500} \times 17$$

$$\approx R4,13$$


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The minimum payment is 2,5% of the closing balance of R525,47. Shariff only paid the minimum due and spent R120 the next month. What is the closing balance on August 24?

Pay =  $\frac{2,5}{100} \times 525,47$   
 $\approx \text{R}13,14$

Int =  $\frac{18}{36500} \times 31 \times 512,33$   
 $\approx \text{R}7,84$

Closing balance  
=  $525,47 - 13,14 + 7,84 + 120$   
=  $\text{R}640,17$

How would you use your credit card, and not pay any interest?

Pay off the **total** debt amount each month.

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2. Marc and Liesl have rented a 2 bedroom townhouse for 5 years. They pay rent plus utilities. As they they are expecting their first child, they are considering buying a small house.

**Task** Discuss the pros & cons of owning a house.

Rent = R3450/month  
Refuse = R1659/year  
Electricity=R2700/year  
Parking = R90/month

Bond Loan=R780/week  
Water= R165/month  
Electricity=R690/month  
Rates & taxes = R5940

Should they buy the house? Justify your answer.

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Townhouse costs per month:  
 $= 3450 + \frac{1659}{12} + \frac{2700}{12} + 90$   
 $= R3\ 903,25$

House costs per month:  
 $= 780 \times 4 + 165 + 690 + \frac{5940}{12}$   
 $= R\ 4\ 470,00$

Cheaper to carry on renting !



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