

Homework Day #4

Question 1:

- a) Using compounding interest, determine the **Profit** when R750 is put into a compounding interest bank account for 4 years at an interest of 6% (interest is payed annually).
- b) Using simple interest, calculate the total amount of money in an account after 4 years with an interest rate of 8% (interest is payed 4 times a year)

Question 2:

George compares the bank fees for withdrawing money from 3 different banks:

- Buck Bank fees: R5,00 per transaction + R1,50 for every R100 withdrawn
- Money Bank fees: R2,50 for every R100 withdrawn
- Richie Rich Bank fees: R4,50 for the first R500 withdrawn; then R2 per every additional R100 withdrawn

- a) Which bank would charge the lowest bank fees if George needed to withdraw R1250?
- b) Which bank is cheapest if George withdraws R300?

QUESTION 3

3.1

TABLE 2 shows data for South African assessed taxpayers for the 2018 tax year.

TABLE 2: TAXPAYERS BY INCOME GROUP AS ASSESSED FOR 2018

Taxable income group	Taxpayers		Taxable income		Tax assessed	
	Number	%	Amount (R million)	%	Amount (R million)	%
Less than R1	127 428	2,6%	-16 302	-1%	2	0,0%
R1 to R70 000	400 133	8,1%	15 030	0,9%	16	0,0%
R70 001 to R350 000	2 856 043	58,1%	577 196	34,8%	59 961	16,8%
R350 001 to R500 000	717 157	14,6%	297 012	17,9%	55 464	15,6%
More than R500 000	816 268	16,6%	783 526	47,3%	240 756	67,6%
Total	4 917 029		C		356 199	

[Adapted from SARS and Businesstech.co.za]

Use the above data to answer the questions that follow.

- 3.1.1 Calculate missing value C. (2)
- 3.1.2 Determine, to THREE decimal places, the probability of randomly choosing an assessed taxpayer if South Africa's population was 57,73 million in 2018. (4)
- 3.1.3 Calculate, in rand, the mean monthly taxable income per taxpayer in the R70 001 to R350 000 taxable income group. (5)
- 3.1.4 In the table, the percentage for tax assessed is 0,0% for the taxable income group R1 to R70 000. (4)
Explain, showing calculations, how this percentage was obtained.

QUESTION 4

4.1

The South African taxi association, Transaction Capital, published its results for the current state of the South African minibus taxi industry for the year ended September 2019. A summary of the results are as follows:

- 250 000 minibus taxis are currently doing business in South Africa.
- The net worth of the minibus taxi industry is R50 billion a year.
- Minibus taxis are responsible for 15 million commuter trips daily.
- Minibus taxis travel 19 billion kilometres a year.

[Source: TCP_HY19_Results analysis booklet]

Transaction Capital is interested in entering the European market.

Below are two exchange rates quoted at different times of the day:

Exchange Rate **A**: 1 euro = 15,97 ZAR

Exchange Rate **B**: 1 euro = 15,966728 ZAR

Use the information above to answer the questions that follow.

- 4.1.1 It is given that there is one bus for every 13,2 minibus taxis on the road.
Determine, to the nearest thousand, the number of buses needed to replace the minibus taxis. (3)
- 4.1.2 Transaction Capital plans to present a business model to a group of European businessmen.
- (a) Calculate (in euros) the difference in net worth of the minibus taxi industry using exchange rates **A** and **B**. (6)
- (b) Justify which exchange rate (**A** or **B**) they should use when doing the presentation to their European clients. (3)