

Question 1 (5 Marks)

Siyabonga purchased 2,000 shares in **Table Mountain REIT** at a price of **R420 per share**.

One year later, he sold all the shares at a market price of R465 per share.

During the holding period, the REIT paid a total cash dividend of R22.50 per share.

- a) Calculate the total **Capital Gain** (in Rands) earned on this investment. **(1)**
- b) Determine the **Ending Market Value** of the entire investment. **(1)**
- c) Calculate the **Holding Period Yield (HPY)** for this investment. **(3)**

Table Mountain REIT

# Shares	2000
Price 0	R 420.00
Price 1	R 465.00
Dividend	R 22.50
Term/Years	1
Beginning Market Value	
Dividend Income	
Capital Gain	
Total Rand Return	
Ending Market Value	
HPR	
HPY	
a Capital Gain	R -
b EMV	R -
c HPY	0.00%

Question 2 (10 Marks)

An analyst wishes to create a price-weighted index to track a group of industrial property companies.

The initial share prices for the three selected constituents at Period T are as follows:

Stock A: R120

Stock B: R60

Stock C: R40

During the year (at Period T+1), the share prices changed to:

Stock A: R44

Stock B: R60

Stock C: R44

Note: Stock A underwent a 3-for-1 forward stock split during the year.

Required:

- Construct the price-weighted index for Period T and Period T+1. **Set the beginning index value to 1,000.** (7)
- Calculate the **percentage price return** of the index from Period T to Period T+1. (3)

	Initial Share Price	Price Just After split	Ending Share Price		Stock A	Stock B	Stock C	Sum	Divisor	Index	Change in Index
Stock A	R 120.00	R 40.00	R 44.00	Initial Share Price							
Stock B	R 60.00	R 60.00	R 60.00	Price Just After split							
Stock C	R 40.00	R 40.00	R 44.00	Ending Share Price							
Sum											
Divisor											
Index											
Change in Index											

Question 3 (10 Marks)

The following table shows the annual total returns for two property funds, **Fund Alpha** and **Fund Beta**, along with the **Benchmark Index** for a five-year period:

Year	Fund Alpha	Fund Beta	Benchmark Index
2021	0.1	0.08	0.09
2022	0.15	0.12	0.11
2023	-0.08	0.02	-0.03
2024	0.12	0.1	0.11
2025	0.07	0.06	0.06

Required:

- a) Calculate the **Arithmetic Mean** and **Geometric Mean** annual rates of return for Fund Alpha, Fund Beta, and the Benchmark Index. (4)
- b) Construct a **total return index** with a base value of **1,000** at the **end of 2020** for both funds and the benchmark. (4)
- c) Briefly comment on the performance of the two funds relative to the Benchmark Index. (2)

a) Arithmetic and Geometric Means (4)						
Year	HPY			HPR		
	Fund Alpha	Fund Beta	Benchmark Index	Fund Alpha	Fund Beta	Benchmark Index
2020						
2021	0.10	0.08	0.09			
2022	0.15	0.12	0.11			
2023	-	0.08	0.02	-		0.03
2024	0.12	0.10	0.11			
2025	0.07	0.06	0.06			
$\sum \text{HPY}$						
n						
$AM = \sum \text{HPY} / n$						
AM using Excel						
$\prod \text{HPR}$						
n						
$GM = \prod \text{HPR}^{1/n-1}$						
GM using Excel						

b) Total Return Index (4)			
Base = 1,000: Index T = Index T-1 x (1 + Return T)			
Year	Fund Alpha	Fund Beta	Benchmark
2020			
2021			
2022			
2023			
2024			
2025			

c) Performance Commentary (2)

Question 4 (5 Marks)

You are comparing two potential real estate investments, **Coastal Properties** and **Urban Trust**.

Their historical annual returns over four years are provided below:

Year	Coastal Properties (%)	Urban Trust (%)
1	14	10
2	18	12
3	-10	4
4	12	8

Calculate the **Arithmetic Mean** and the **Geometric Mean** for both investments. (5)

Year	HPY		HPR	
	Coastal Properties (%)	Urban Trust (%)	Coastal Properties (%)	Urban Trust (%)
1	14	10		
2	18	12		
3	-10	4		
4	12	8		

$$\frac{\sum \text{HPY}}{n}$$

$$\text{AM} = \frac{\sum \text{HPY}}{n}$$

AM using Excel

$$\prod \text{HPR}$$

$$\text{GM} = \left(\prod \text{HPR} \right)^{1/n-1}$$

GM using Excel