

## QUESTION 1

### 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 | R | 840 000.00            |
| Dividend Income        | R | 45 000.00             |
| Capital Gain           | R | 90 000.00             |
| Total Rand Return      | R | 135 000.00            |
| Ending Market Value    | R | 975 000.00            |
| HPR                    |   | 1.16071 HPR = EMV/BMV |
| HPY                    |   | 16.07%                |

- a Capital Gain**                      **R      90 000**    Capital Gain = (Selling Price - Purchase Price) x Number of Shares
- b EMV**                                      **R      975 000**    EMV = BMV + Income + Gain = BMV + Total Rand Return
- c HPY**                                      **16.07%**    HPY =  $\text{HPR}^{(1/n)} - 1$  or Total Rand Return / BMV

|                 |   | Initial Share Price | Price Just After split | Ending Share Price |
|-----------------|---|---------------------|------------------------|--------------------|
| Stock A         | R | 120.00              | R 40.00                | R 44.00            |
| Stock B         | R | 60.00               | R 60.00                | R 60.00            |
| Stock C         | R | 40.00               | R 40.00                | R 44.00            |
| Sum             | R | 220.00              | R 140.00               | R 148.00           |
| Divisor         |   | 0.22                | 0.14                   | 0.14               |
| Index           |   | 1 000.00            | 1 000.00               | 1 057.14           |
| Change in Index |   |                     |                        | 0.05714 5.71%      |

QUESTION 2

|                        |   | Stock A | Stock B | Stock C | Sum      | Divisor | Index    | Change in Index   |
|------------------------|---|---------|---------|---------|----------|---------|----------|-------------------|
| Initial Share Price    | R | 120.00  | R 60.00 | R 40.00 | R 220.00 | 0.22    | 1 000.00 |                   |
| Price Just After split | R | 40.00   | R 60.00 | R 40.00 | R 140.00 | 0.14    | 1 000.00 |                   |
| Ending Share Price     | R | 44.00   | R 60.00 | R 44.00 | R 148.00 | 0.14    | 1 057.14 | 0.057142857 5.71% |

### QUESTION 3

#### 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            | 1.10       | 1.08      | 1.09            |
| 2022                                   | 0.15       | 0.12      | 0.11            | 1.15       | 1.12      | 1.11            |
| 2023                                   | - 0.08     | 0.02      | - 0.03          | 0.92       | 1.02      | 0.97            |
| 2024                                   | 0.12       | 0.10      | 0.11            | 1.12       | 1.10      | 1.11            |
| 2025                                   | 0.07       | 0.06      | 0.06            | 1.07       | 1.06      | 1.06            |
| $\sum \text{HPY}$                      | 0.36       | 0.38      | 0.34            |            |           |                 |
| n                                      | 5          | 5         | 5               |            |           |                 |
| $\text{AM} = \sum \text{HPY} / n$      | 0.07       | 0.08      | 0.07            |            |           |                 |
| AM using Excel                         | 7.20%      | 7.60%     | 6.80%           |            |           |                 |
| $\prod \text{HPR}$                     |            |           |                 | 1.39       | 1.44      | 1.38            |
| n                                      |            |           |                 | 5          | 5         | 5               |
| $\text{GM} = \prod \text{HPR}^{1/n-1}$ |            |           |                 | 0.07       | 0.08      | 0.07            |
| GM using Excel                         |            |           |                 | 6.88%      | 7.54%     | 6.67%           |

#### b) Total Return Index (4)

Base = 1,000: Index T = Index T-1 x (1 + Return T)

| Year | Fund Alpha | Fund Beta | Benchmark |
|------|------------|-----------|-----------|
| 2020 | 1 000.00   | 1 000.00  | 1 000.00  |
| 2021 | 1 100.00   | 1 080.00  | 1 090.00  |
| 2022 | 1 265.00   | 1 209.60  | 1 209.90  |
| 2023 | 1 163.80   | 1 233.79  | 1 173.60  |
| 2024 | 1 303.46   | 1 357.17  | 1 302.70  |
| 2025 | 1 394.70   | 1 438.60  | 1 380.86  |

#### c) Performance Commentary (2)

Both funds outperformed the benchmark index on a geometric mean basis (Alpha: 6.88% and Beta: 7.54% vs. Benchmark: 6.67%).

Fund Beta provided a higher long-term return (GM) and was less volatile than Fund Alpha, which suffered a significant negative return in 2023.

# QUESTION 4

| Year                                   | HPY                       |                    | HPR                       |                    |
|----------------------------------------|---------------------------|--------------------|---------------------------|--------------------|
|                                        | Coastal Properties<br>(%) | Urban Trust<br>(%) | Coastal Properties<br>(%) | Urban Trust<br>(%) |
| 1                                      | 0.14                      | 0.1                | 1.14                      | 1.1                |
| 2                                      | 0.18                      | 0.12               | 1.18                      | 1.12               |
| 3                                      | -0.1                      | 0.04               | 0.9                       | 1.04               |
| 4                                      | 0.12                      | 0.08               | 1.12                      | 1.08               |
| $\sum \text{HPY}$                      | 0.34                      | 0.34               |                           |                    |
| n                                      | 4                         | 4                  |                           |                    |
| $\text{AM} = \sum \text{HPY} / n$      | 0.09%                     | 0.09%              |                           |                    |
| AM using Excel                         | 0.09%                     | 0.09%              |                           |                    |
| $\prod \text{HPR}$                     |                           |                    | 1.3559616                 | 1.3837824          |
| n                                      |                           |                    | 4                         | 4                  |
| $\text{GM} = \prod \text{HPR}^{1/n-1}$ |                           |                    | 7.91%                     | 8.46%              |
| GM using Excel                         |                           |                    | 7.91%                     | 8.46%              |