

**ANSWER ALL QUESTIONS**

**50 MARKS HAVE BEEN ALLOCATED**

**120 MINUTES HAVE BEEN ALLOCATED**

**ALL WORKINGS TO BE SHOWN**

**Question 1**

**[10 Marks]**

- a) Apart from investing directly in property, explain two other vehicles investors can use to access the property market. (6)
- b) How are the different components of investment return – income and capital gain – different for listed and direct property investments? (4)

**Question 2**

**[20 Marks]**

Below is the link to a spreadsheet containing the total returns of South African direct property between 1995 and 2017. The return on Treasury Bills has also been provided.

DATA: 2025 CON3052S TEST 2

**Question 2a**

**(5)**

Calculate the geometric and arithmetic mean of all the return series given.

**Question 2b**

**(3)**

Calculate the sample standard deviation of the return series given. You may calculate this manually or using MS Excel.

**Question 2c**

**(6)**

Assuming the returns are normally distributed, calculate the probability that the return for the various sectors (Office, Retail and Industrial) would exceed the return of the All-Property portfolio.

**Question 2d****(6)**

Again, assuming the returns are normally distributed, calculate the probability that the return for the various sectors (Office, Retail and Industrial) would exceed the yield on T-bills.

**QUESTION 3****[20 MARKS]**

Sorrento Property Fund is planning to create an exchange-traded fund which would track the performance of South African REITs which specialise in industrial properties. The two REITs which are currently classified as industrial REITs are: Delta Property Fund and Equites Property Fund Limited. The data for the creation of the index that this fund would track is linked below:

DATA: 2025 CON3052S TEST 2

**Question 3a****(4)**

Explain the difference between a price index and a market-value (capitalisation) weighted index.

**Question 3b****(4)**

Construct a price-weighted index using the data provided. The base index value should be set to 10,000.

**Question 3c****(4)**

Construct a value-weighted index using the data provided. Again, set the index value to 10,000.

**Question 3d****(4)**

Calculate the price returns based on the indexes constructed (b) and (c).

**Question 3e****(4)**

Produce a graph showing the two price indexes and another showing the two price returns.