

# EXERCISES

## EXERCISE 1

*A corporation paid a dividend of 10 euro per share in 2023 and a dividend of 10.1 euro in 2024. We expect the dividend to keep growing at the same rate forever. The annual cost of equity is 5% and the annual cost of debt is 2%. What should the price of the shares be according to the dividend-discount model?*

## EXERCISE 2

*Consider the following series of unadjusted monthly closing prices (in euro) of a stock that undergoes the corporate events indicated next to the price.*

*January: 18*

*February: 18.6*

*March: 5.6      3 for 1 split*

*April: 6.4*

*May: 3.4      2 for 1 stock split*

*June: 3.7*

*Compute the adjusted stock returns.*

## EXERCISE 3

*Given the following series of returns*

*0.048 , 0.02 , -0.01 , 0.1*

*and the following series of risk-free rates*

*0.005 , 0.005 , 0 , 0*

*Compute the Sharpe ratio of the investment.*

## EXERCISE 4

*A risky investment is estimated to deliver the following returns.*

*After 9 months:*

- $R = -0.15$  with a 20% probability
- $R = 0.1$  with a 70% probability
- $R = 0.25$  with a 10% probability

*After 24 months:*

- $R = -0.2$  with a 20% probability
- $R = 0.15$  with a 60% probability
- $R = 0.3$  with a 20% probability

*The annual inflation rate is 3%.*

*What is the real cumulative expected return after 24 months?*