***Converting Returns:***

***Effective rates, APR’s and***

***Continuously Compounded rates***

**Question 1:** A stock was bought for $10 and sold one month later for $10.50.

a) What is the effective **monthly** rate of return?

b) What is the **APR** compounding per **month**?

c) What is the effective **annual** rate of return?

d) What is the continuously compounded **monthly** rate of return?

e) What is the continuously compounded **annual** rate of return?

**Question 2:** A credit card advertises an interest rate of 24%.

Note that credit cards are paid monthly so the interest rate is quoted as an Annualised Percentage Rate (APR) compounding per month.

a) Find the effective monthly rate.

b) Find the effective annual rate.

c) Find the effective 6 month rate.

d) Find the effective quarterly rate.

e) Find the Annualised Percentage Rate (APR), compounding every 6 months ().

f) Find the APR compounding per day (). Assume 30 days in a month and 360 days in a year.

g) Find the continuously compounded rate per year (). Assume 30 days in a month and 360 days in a year.

h) Find the continuously compounded rate per month (). Assume 30 days in a month and 360 days in a year.

i) Find the continuously compounded rate per day (). Assume 30 days in a month and 360 days in a year.

**Question 3:** A bond is advertised with a coupon rate of 7%, paid semi-annually. The yield of the bond is 6%.

Note that the bond pays semi-annual coupons so the yield is quoted as an Annualised Percentage Rate (APR) compounding every 6 months.

a) Find the effective six-month rate.

b) Find the effective annual rate.

c) Find the effective monthly rate.

d) Find the effective quarterly rate.

e) Find the Annualised Percentage Rate (APR), compounding every week. Assume 52 weeks per year. ().

f) Find the APR compounding per day. Assume 30 days in a month and 360 days in a year.

g) Find the continuously compounded rate per year (). Assume 30 days in a month and 360 days in a year.

h) Find the continuously compounded rate per month (). Assume 30 days in a month and 360 days in a year.

i) Find the continuously compounded rate per day (). Assume 30 days in a month and 360 days in a year.