

MBA Maths 2009

Practice Quiz 2

**Question 1**

Evaluate

- (a)  $\log_7 343$
- (b)  $\log_5 0.04$
- (c)  $\log_{10} 0.0001$
- (d)  $\log_8 64$
- (e)  $\log_{16} 0.50$
- (f)  $\log_6 1/9 + \log_6 1/4$
- (g)  $\log_{10} 5 + \log_{10} 20$
- (h)  $\log_9 405 - \log_9 5$
- (i)  $\log_3 \sqrt[3]{108} - \log_3 \sqrt[3]{4}$
- (j)  $\ln e^{2/3} + \ln e^{4/3}$

**Question 2**

- (a) If the growth factor for 1 year is 1.075 what is the interest rate expressed as
  - i. An annual compound rate?
  - ii. A quarterly compound rate?
- (b) If an initial investment of 1550 is worth 2200 at the end of 18 months, what was the interest rate expressed as
  - i. A monthly compound rate?
  - ii. An annual compound rate?
- (c) Referring to part (b)
  - i. How much will the investment be worth at the end of 2 years?
  - ii. How much was the investment worth after 3 months?
- (d) If you invest \$10,000 at a semi-annual interest rate of 3.5%, how much is the investment worth after
  - i. One year?
  - ii. After 15 months?
- (e) If you invest \$5000 at a month compound interest rate of 1%
  - i. how long will it take for your investment to triple?
  - ii. If you invested \$10,000 (instead of \$5000) how would your answer to part (e)-(i) change?