Question 1

Evaluate

(a) \(\log_7343\)
(b) \(\log_50.04\)
(c) \(\log_{10}0.0001\)
(d) \(\log_864\)
(e) \(\log_{10}0.50\)
(f) \(\log_6\frac{1}{9} + \log_6\frac{1}{4}\)
(g) \(\log_{10}5 + \log_{10}20\)
(h) \(\log_9405-\log_95\)
(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?