(Q1) If P is a fraction approximated by 0.18 with relative error of 0.04, find P.

(Q2) If $f(x) = \frac{\ln(\sin x)}{e^{-x}}$, estimate $f(\frac{4}{7})$ using 5-digit chopping.

(Q3) If we approximated e^x by $1 + x + \dfrac{x^2}{2} + \dfrac{x^3}{6} + \dfrac{x^4}{24}$, find an upper bound for the error of estimating $e^{0.2}$.

(Q4) If the value of $\frac{1}{8} + \frac{3}{8}$ is approximated using 2-digit rounding, find the relative error.

(Q5) Let $g(x) = e^{-x} + \frac{1}{x} + 5$; $5 \le x \le 6$

  (a) Find the maximum and minimum of $g(x)$
  (b) Find the max of $|g'(x)|$

(Q6) If $f(x) = \sqrt[3]{x+1}$, find the maximum of $|f'''(x)|$ on $[1,2]$

(Q7) Estimate the value of $\dfrac{\frac{8}{17} + \frac{81}{13} + \frac{801}{19}}{5 \times \frac{117}{37}}$ using

  (a) Four-digit rounding.
  (b) Four-digit chopping