

Mathematics 110 — Assignment 3

Reading: Lecture Notes Sections 3.1 to 3.6

Question 1.

Sketch on the one diagram the graphs of

(a) $y = 3x - 7$,

(b) $y = \frac{1}{2}x + 1$,

(c) $y = -2x - 1$.

Question 2.

Find the equation of the straight line joining the points (2,-3) and (4,6).

Question 3.

Sketch the graphs of the following functions

(a) $y = x^2 - 3x + 1$,

(b) $y = 2x^2 - x - 4$,

(c) $y = -x^2 + 2x - 1$.

In each case find the maximum or minimum values of the function and the roots of the function.

Question 4.

Assuming only that $\ln 3 = 1.099$ and $\ln 4 = 1.386$ calculate (a) $\ln 27$, (b) $\ln(\frac{4}{3})$, (c) $\ln 48$ and (d) $\ln 2$.