

Assignment 4 – Part 1 – Math 241

These exercises are taken from the textbook (Hass, Weir, and Thomas' *University calculus alternate edition* or *UH Mānoa custom edition*).

Section 2.5: 2, 6, 8, 12, 18, 20, 40, 42

Other problems:

(Q1) Determine the horizontal *and* vertical asymptotes for the following functions.

$$\begin{aligned} \text{(a)} \quad f(x) &= \frac{x^2 - 1}{x^2 - 3x + 2} \\ \text{(b)} \quad f(x) &= \begin{cases} \frac{x}{x+1}, & x < 0 \\ \tan(x), & 0 \leq x < \pi/2 \\ \frac{2x^2 + 1}{x^2 + 1}, & \pi/2 \leq x. \end{cases} \end{aligned}$$