1. Section 3.3 #3
2. Let

\[ f(x) = \frac{2x^3 - x^2 + 1}{x - 1}. \]

(a) Find \( \lim_{x \to 1^+} f(x) \).

(b) Find \( \lim_{x \to 1^-} f(x) \).

(c) Are there horizontal asymptotes? Prove your answer (don’t just explain).
3. Section 3.4 #29, #34. Make sure to prove your answers; the truth or falsehood can be found in the back of the book.

(a) Section 3.4 #29

(b) Section 3.4 #34
4. Section 4.1 #2 (a), (b), (c)

(a)

(b)

(c)
5. Section 4.1 #5 (b), (k), (m)

(b)

(k)

(m)
6. Section 4.1 #9

7. Section 4.3 #5
8. Consider the equation $5^x = 6x$. Show this equation has a solution $x = a$ where $a \in (0, 1)$ using two different theorems:

(a) Using the Intermediate Value Theorem, and

(b) Using Brouwer’s Fixed Point Theorem.

(a) Using the Intermediate Value Theorem:

(b) Using Brouwer’s Fixed Point Theorem.
9. Section 4.4 #1 (c), (e). Explain your answer

(c)

(e)
10. Section 4.4 #3 (c), (d).

  (c)

  (d)