

Numerical Analysis HW #1

Ozaner Hansha

February 12, 2019

Problem 1

Consider the following function:

$$f(x) = \frac{1 - \cos x}{x^2}$$

Part a

Problem: Prove the following:

$$\lim_{h \rightarrow \infty} f(h) = \frac{1}{2}$$

Solution:

Part b

Problem:

Solution:

Problem 2

Consider the following function:

$$f(x) = x^3 + x - 4$$

Part a

Problem:

Solution:

Part b

Problem:

Solution:

Part c

Problem:

Solution:

Problem 3

Problem:

Solution:

Problem 4

Problem:

Solution:

Problem 5

Problem:

Solution: