MA 16010 Quiz 7

Lesson 18-20

9 March 2022

Problem 1. Suppose

$$f'(x) = x + 3$$

Use the the first derivative test to determine if $x = -3$ is a relative maximum or relative minimum for $f(x)$.

Problem 2. Suppose

$$f''(x) = 3x + 4$$

and $f(x)$ has a critical number at $x = -2$. Use the second derivative test to determine if $x = -2$ is a relative maximum or relative minimum.

Problem 3. Let

$$f(x) = \frac{1}{3}x^3 - x$$

Find the absolute minimum and absolute maximum of $f(x)$ on the closed interval $[0, 2]$.