

Mean Value Theorem

3.14.1

Find whether the mean value theorem can be applied to the function on the interval. If it cannot, explain why. If it can, find all values of c in the interval satisfying $f'(c) = \frac{f(b)-f(a)}{b-a}$.

(a) $f(x) = 2x^2 - x - 2, \quad -3 \leq x \leq 2$

(b) $f(x) = \sec x, \quad 0 \leq x \leq \pi$

(c) $f(x) = \cos x, \quad -\frac{\pi}{2} \leq x \leq \frac{5\pi}{2}$