AP Calculus AB
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Homework 0408
Wednesday, April 8, 2020

Problem 1. Let f be the function that is defined for all real numbers x and that has the following properties:

(i) $f''(x) = 24x - 18$

(ii) $f'(1) = -6$

(iii) $f(2) = 0$

(a) Find each x such that the line tangent to the graph of f at $(x, f(x))$ is horizontal.

(b) Write an expression for $f(x)$.

(c) Find the average value of f on the interval $1 \leq x \leq 3$.

Problem 2. Let f be the function given by $f(x) = \dfrac{|x| - 2}{x - 2}$.

(a) Find all the zeros of f.

(b) Find $f'(1)$.

(c) Find $f'(-1)$.

(d) Find the range of f.