Quiz 5 (23-04-2018)

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Question 1. [4 marks]

(a) [2 marks] Suppose that $f(10) = 0$ and $f'(x) \geq 3/4$, for all values of x. How small can $f(12)$ possibly be?

(b) [2 marks] Show that
$$|\sin(2a) - \sin(2b)| \leq 2|a - b|,$$
for all real numbers a and b.

Question 2. [4 marks]

(a) [2 marks] Find the relative extrema of $f(x) = 5x^5 - 3x^3$.

(b) [2 marks] Find the intervals of concavity and the inflection points for $f(x) = 1 + 1/x - 1/x^2$.