

QUIZ 5 - MATH 112

Thursday, March 14

YOUR NAME: \_\_\_\_\_

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Read each problem **very carefully** before starting to solve it and do only what is asked. Each problem is worth around 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. [10 points] Consider the function

$$f(x) = \frac{1}{4}x^5 - \frac{5}{6}x^3.$$

- (a) Compute the first derivative and find the critical points.

- (b) Compute the second derivative and find the critical points.

- (c) Create the combined signed table for the first and second derivatives and completely fill-in the information concerning monotonicity, concavity, relative extrema and inflection points of  $f$  in the last line. (Please, show all details on how you fill-in the table, including computations.)