_____ / 10 points   Name: _____

In order to receive credit for this quiz, **all work must be shown** and legible. If you need extra space, use the back of this page and indicate that you have done so. Unsupported or otherwise mysterious answers will not receive credit. You may use a calculator.

1. Let $f(x) = -x^5 + \dfrac{5}{2}x^4 + \dfrac{40}{3}x^3 + 5$. Determine **all** critical points and points of inflection of $f(x)$. Use this to answer the following questions. You may use the attached page to show your work.

   List all critical points:

   List all points of inflection:

   Intervals where $f(x)$ is increasing:

   Intervals where $f(x)$ is decreasing:

   Intervals where $f(x)$ is concave up:

   Intervals where $f(x)$ is concave down:

(extra work)