Math 131 - Quiz 5

Name _____

April 21, 2021

Score _____

Show all work to receive full credit. Supply explanations when necessary. This quiz is due April 28.

1. (6 points) Let $g(x) = x^3 - 9x^2 + 15x + 3$. (a) Find open intervals on which g is increasing/decreasing. (b) Identify all relative extrema. (c) Find open intervals on which the graph of g is concave up/down. (d) Identify all inflection points.

2. (2 points) Compute the limit. Show work.

$$\lim_{x \to -\infty} \left(\frac{4x^5 - 7x^3 + 13}{17x^5 - 1} \right)$$

3. (2 points) Find the horizontal asymptote(s) of the graph of $y = \dfrac{|x|^3}{7x^3 + 5x}$.