

Math 1314 – ONLINE
Alternate Assignment 9

Record your answers to these questions on the Alternate Assignment 9 answer sheet and upload your answers to the Alternate 9 slot on the “Assignments” tab at casa.uh.edu. This assignment is due on Saturday, October 21, 2012, at 11:59 p.m. All work must be submitted electronically. Late work will not be accepted.

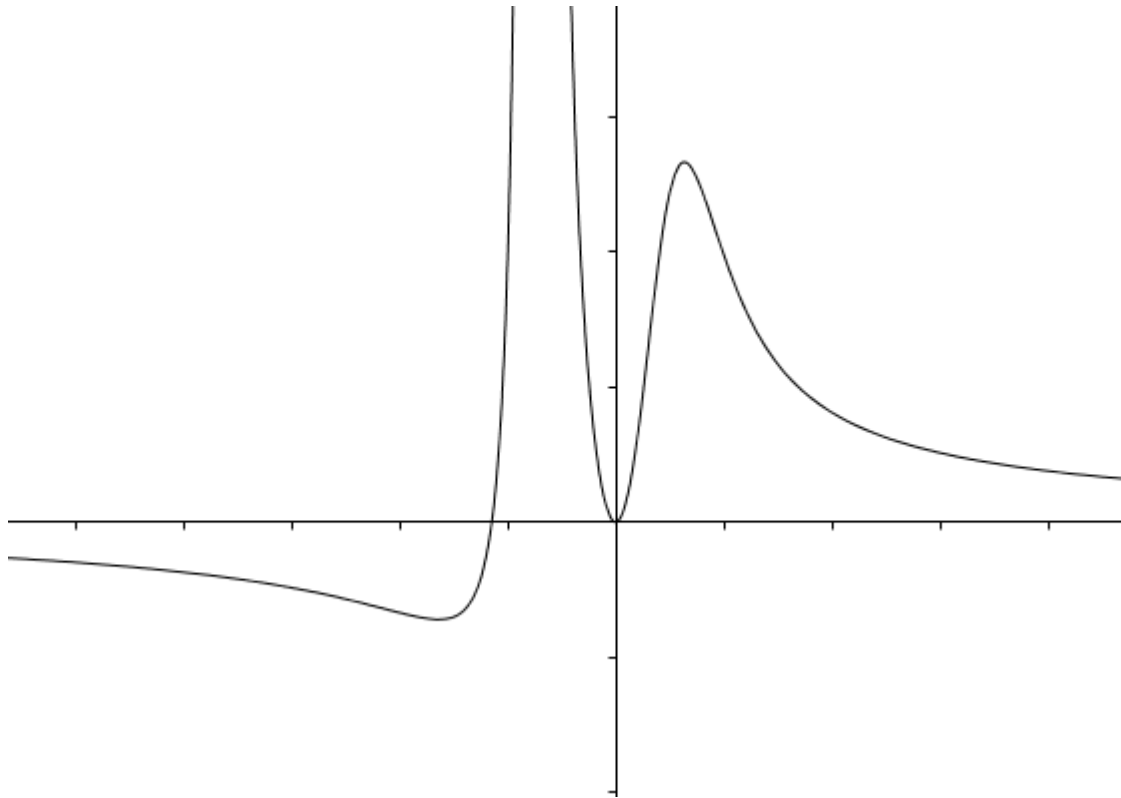
For problems 1 – 6 , use the function $f(x) = \frac{4x}{x^2 + 2}$.

1. Find any zeros of the function.
2. Find any asymptotes of the function.
3. Find any extrema of the function.
4. State intervals on which the function is increasing and intervals on which the function is decreasing.
5. State intervals on which the function is concave upward and intervals on which the function is concave downward.
6. Find any inflection points.

For problems 7 - 12, answer the questions using the function $f(x) = \frac{3x^2 + 2}{x^4 + 6x^2 + 9}$.

7. Find any zeros of the function.
8. Find any asymptotes of the function.
9. Find any extrema of the function.
10. State intervals on which the function is increasing and intervals on which the function is decreasing.
11. State intervals on which the function is concave upward and intervals on which the function is concave downward.
12. Find any inflection points.

Use the graph shown below to answer questions 13 – 16. Note that this is the graph of a function, not the derivative of the function.



13. On how many intervals is the graph of the function decreasing?
14. How many relative extrema does the graph of the function have?
15. On how many intervals is the graph of the function concave upward?
16. How many inflection points does the graph of the function have?