

Name: _____

Give an answer. Show all work. No calculators are allowed.

1. Determine where the following function is:

- | | |
|--|---|
| (a) Positive and negative | (d) Behavior at infinity; slant or horizontal asymptotes? |
| (b) Increasing and decreasing | (e) Behavior where the function is singular; vertical asymptotes? |
| (c) Concave up (convex) and concave down | |

Finally, sketch the graph!

$$f(x) = \frac{4x}{x^2 + 1}$$