

Section 3.6 Curve Sketching

This section combines all we have learnt in Sections 3.2 through 3.5. Here we will graph a function using the following the recipe :

- 1) Find domain of the the function
- 2) Find the intercepts (y-intercept is easy to find. If finding x-intercept is causing you trouble you may skip that one)
- 3) Find the vertical and horizontal asymptotes
- 4) Find critical values (first derivative info)
- 5) Calculate the second derivative find where the second derivative is equal to zero or undefined
- 6) Prepare the sign chart using the results of step 4 and 5 above and determine how the curve "bends" in each of the intervals.
- 7) (Optional but useful) Calculate the value of your function at the critical points.
- 8) Sketch the graph.