

Section 5.4 Curve sketching

Idea: use tables and limit computations to sketch the graph of a function

Example



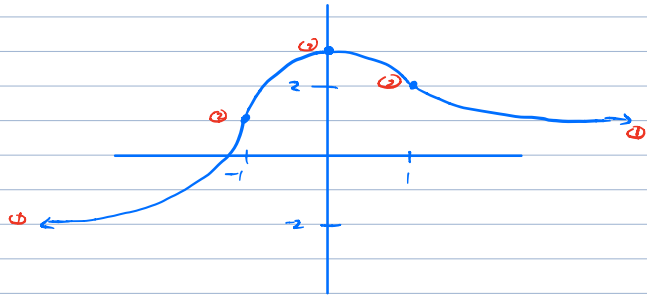
$f'(x)$	+	-
$f(x)$	↗	↘
	④	⑥



$f''(x)$	+	-	+
$f(x)$	∪	∩	∪
	④	⑥	⑧

- ① HA: $y = 1$ as $x \rightarrow +\infty$
 $y = -2$ as $x \rightarrow -\infty$

- ② $f(0) = 3, f(-1) = 1, f(1) = 2$



Example



$f'(x)$	+	-	+
$f(x)$	↗	↘	↗
	④	⑥	⑧



$f''(x)$	+	-	-
$f(x)$	∪	∩	∩
	④	⑥	⑧

- ① HA: $y = 0$ as $x \rightarrow +\infty$
 $y = 0$ as $x \rightarrow -\infty$

- ② VA: $x = 2$

- ③ $f(-2) = 1, f(1) = 2$

