

(3) Sketch $f(x) = x^{2/3}$

$$f'(x) = \frac{2}{3x^{1/3}}$$

$$f''(x) = \frac{-2}{9x^{4/3}}$$

• domain: \mathbb{R} .

• Intercept: $(0,0)$

• f' is discontinuous at $x=0$.



• $\lim_{x \rightarrow +\infty} f(x) = \infty$

~~So, f' DNE at $x=0$ only.~~

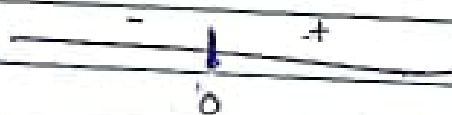
• $\lim_{x \rightarrow -\infty} f(x) = -\infty$

• $f' \neq 0$ but f' DNE at 0.

So, 0 is the only critical pt.

No vertical asymptotes.

No horizontal asymptotes.



So, rel. min
at $(0,0)$.

• $f'' < 0$ always. No inflection point.

f'' DNE at 0

