Housekeeping:
- HW 10 Weds. in class
- Canvas quiz Mon. 11:59 p.m.

Last time:
- Intro. parametric curves
- Sketching —— -- ——
- Eliminating the parameter

Parametrizing curves.

- The graph of any function $y = f(x)$ has the "natural parametrization"
$$\begin{cases} x = t \\ y = f(t) \\ t \in \text{domain}(f(x)) \end{cases}$$

EXAMPLE. Parametrization of the line through (a, b) with slope m.

Cartesian Equation: $y - b = m(x-a) \iff y = mx + (b-ma)$

Natural Parametrization:
$$\begin{cases} x = t \\ y = mt + (b-ma) \\ t \in \mathbb{R} \end{cases}$$

Another Parametrization:
$$\begin{cases} x = \cancel{t^2}\; 2t \\ y = 2mt^2 + (b-ma) \\ t \in \mathbb{R} \end{cases}$$

Yet Another Parametrization:

Let $t := x - a$. So
$$\begin{cases} x = t + a \\ y = mt + b \\ t \in \mathbb{R} \end{cases}$$