

W12 Stepwise

Due date: Friday 4/3, 11:59pm

01

Convert parametric curve to function graph

Write the following curves as the graphs of a function $y = f(x)$. (Find $f(x)$ for each case.)

(a) $x = t + 3$, $y = 4t$ and $0 < t < 1$

(b) $x = \cos t$, $y = \sin^2 t$ and $0 < t < 2\pi$

Sketch each curve.

✍ Parametric curves: Points with given slope

Where on the image of $(3t^2 - 2t, t^3 - 6t)$ does the tangent line have slope 3?

✍ Parametric concavity

Find $\frac{d^2y}{dx^2}$ at $t = 1$ for the curve given parametrically by $x = 4 - t^{-2}$, $y = t^{-1} + t$.