

March 4

How are derivatives of
parametric functions different
from "regular" functions?

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Students will verbally explain how to
interpret the first and second
derivatives of parametric
functions

(using the words:
terms, $x(t)$, $x'(t)$, $y(t)$, $y'(t)$...)

Derivative

$$\frac{\frac{dy}{dt}}{\frac{dx}{dt}} = \frac{y'}{x'}$$

horizontal
tangent lines

$$\text{where } \frac{dy}{dt} = 0 \\ \left(\text{and } \frac{dx}{dt} \neq 0 \right)$$

vertical
tangent lines

$$\text{when } \frac{dx}{dt} = 0 \\ \left(\text{and } \frac{dy}{dt} \neq 0 \right)$$