

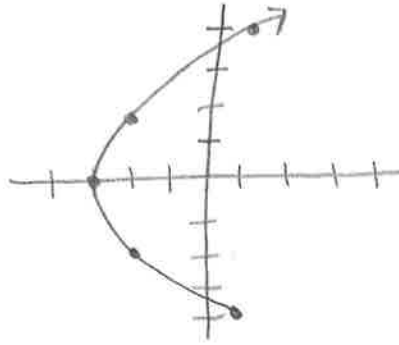
Nombre Para el Papel: key

AP Calculus BC: 12.1 Intro to Parametric Equations

Complete the tables, graph the curve of the parametric equations, and eliminate the parameters and find $\frac{dy}{dx}$ for each of the parametric equations below.

1) $x(t) = t^2 - 3$ $y(t) = 2t$ $-2 \leq t \leq 2$

t	-2	-1	0	1	2
x	1	-2	-3	-2	1
y	-4	-2	0	2	4



$$x = t^2 - 3$$

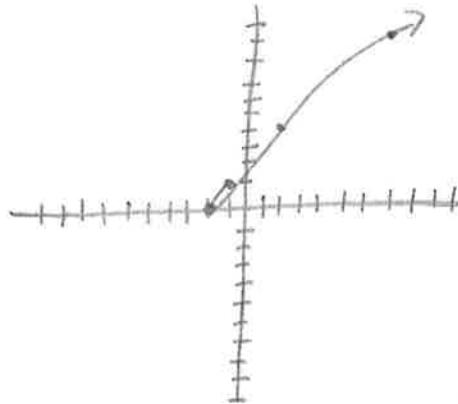
$$x + 3 = t^2$$

$$t = \sqrt{x + 3}$$

$$y = 2(\sqrt{x + 3})$$

2) $x(t) = t^2 - 2$ $y(t) = t^2$ $-1 \leq t \leq 3$

t	-1	0	1	2	3
x	-1	-2	-1	2	7
y	1	0	1	4	9



$$x = t^2 - 2$$

$$x + 2 = t^2$$

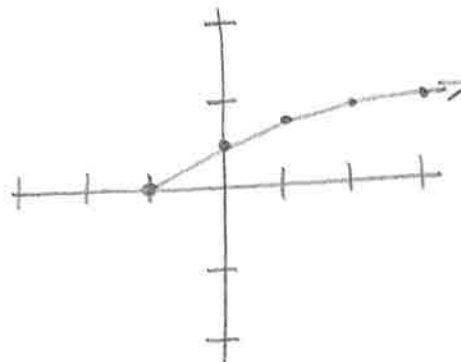
$$t = \sqrt{x + 2}$$

$$y = (\sqrt{x + 2})^2$$

$$y = x + 2$$

3) $x(t) = t - 1$ $y(t) = \frac{t}{t+1}$ $0 \leq t \leq 4$

t	0	1	2	3	4
x	-1	0	1	2	3
y	0	1/2	2/3	3/4	4/5



$$x = t - 1$$

$$t = x + 1$$

$$y = \frac{x + 1}{(x + 1) + 1}$$

$$y = \frac{x + 1}{x + 2}$$