

Curves Defined by Parametric Equations

Solutions should show all of your work, not just a single final answer.

1. In the following parametric equations, eliminate the parameter to obtain a single equation only in terms of x and y .
 - (a) $x = t^2 + 4$, $y = 3t^2$; $0 \leq t \leq 2$.
 - (b) $x = 3 \cos t$, $y = 3 \sin t$; $0 \leq t \leq \frac{\pi}{2}$.
2. Find a parameterization of the following circles:
 - (a) A circle centered at the origin with radius 16, oriented counterclockwise with initial point $(0, 16)$.
 - (b) A circle centered at $(-2, -3)$ with radius 8, oriented clockwise with initial point $(6, -3)$.
3. T/F (with justification)
The parametric curve $(\sin t, -\cos t)$ as t increases traces out a circle counterclockwise.