

Section 10.1: Curves Defined by Parametric Equations

Example: Use the parametric function $x(t) = t^2 + 3t$, $y(t) = 2t + 5$ to answer the following.

A) Is the point $(10, 8)$ on the graph? Justify your answer.

B) Sketch the graph of the curve.

t	x	y
-4	4	-3
-3	0	-1
-2	-2	1
-1	-2	3
0	0	5
1	4	7
2	10	9

C) Find the Cartesian equation of the parametric function.

Example: Sketch the curve $x = \cos(t)$, $y = \cos^2(t)$.

Example: Sketch the graph of these parametric curves.

A) $x = 4 \sin(t)$, $y = 4 \cos(t)$

B) $x = 4 \cos(t)$, $y = 4 \sin(t)$