

Section 10.5 Parametric Equations

Objective: In this lesson you learned how to rewrite sets of parametric equations as single rectangular equations and find sets of parametric equations for graphs.

Course Number

Instructor

Date

Important Vocabulary

Define each term or concept.

Parameter

I. Plane Curves (Page 731)

If f and g are continuous functions of t on an interval I , the set of ordered pairs $(f(t), g(t))$ is a(n) _____ C . The equations $x = f(t)$ and $y = g(t)$ are _____ for C , and t is the _____.

What you should learn

How to evaluate sets of parametric equations for given values of the parameter

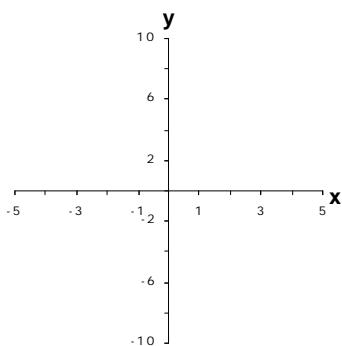
II. Sketching a Plane Curve (Pages 732–733)

One way to sketch a curve represented by a pair of parametric equations is to plot points in the _____. Each set of coordinates (x, y) is determined from a value chosen for the _____. By plotting the resulting points in the order of increasing values of t , you trace the curve in a specific direction, called the _____ of the curve.

What you should learn

How to graph curves that are represented by sets of parametric equations

Example 1: Sketch the curve described by the parametric equations $x = t - 3$ and $y = t^2 + 1$, $-1 \leq t \leq 3$.



Another way to display a curve represented by a pair of parametric equations is to use a graphing utility. To do so, . . .

III. Eliminating the Parameter (Pages 734–735)

Eliminating the parameter is the process of . . .

What you should learn
How to rewrite sets of parametric equations as single rectangular equations by eliminating the parameter

Describe the process used to eliminate the parameter from a set of parametric equations.

Converting equations from parametric to rectangular form can change the _____ of x and y . In such cases, . . .

To eliminate the parameter in equations involving trigonometric functions, try using the identities . . .

IV. Finding Parametric Equations for a Graph (Page 735)

Describe how to find a set of parametric equations for a given graph.

What you should learn
How to find sets of parametric equations for graphs

Homework Assignment

Page(s)

Exercises