

Section 8.2 Translations of Conics

Objective: In this lesson you learned how to recognize, graph, and write equations of conics that have been shifted vertically and/or horizontally in the plane.

Course Number

Instructor

Date

I. Vertical and Horizontal Shifts of Conics (Pages 588–589)

Write the standard form of the equation of a horizontal parabola with vertex at (h, k) and directed distance p from the vertex to the focus: _____

Write the standard form of the equation of a vertical parabola with vertex at (h, k) and directed distance p from the vertex to the focus: _____

Write the standard form of the equation of a circle with radius r and center at (h, k) : _____

Write the standard form of the equation of an ellipse centered at (h, k) and having a horizontal major axis of length $2a$ and minor axis of length $2b$: _____

Write the standard form of the equation of an ellipse centered at (h, k) and having a vertical major axis of length $2a$ and minor axis of length $2b$: _____

Write the standard form of the equation of a hyperbola centered at (h, k) and having a horizontal transverse axis of length $2a$ and conjugate axis of length $2b$: _____

Write the standard form of the equation of a hyperbola centered at (h, k) and having a vertical transverse axis of length $2a$ and conjugate axis of length $2b$: _____

What you should learn

How to recognize equations of conics that have been shifted vertically and/or horizontally in the plane

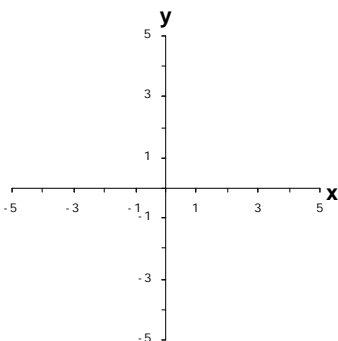
II. Equations of Conics in Standard Form (Pages 590–592)

To write an equation of the form $ax^2 + by^2 + cx + dy + e = 0$ in standard form, . . .

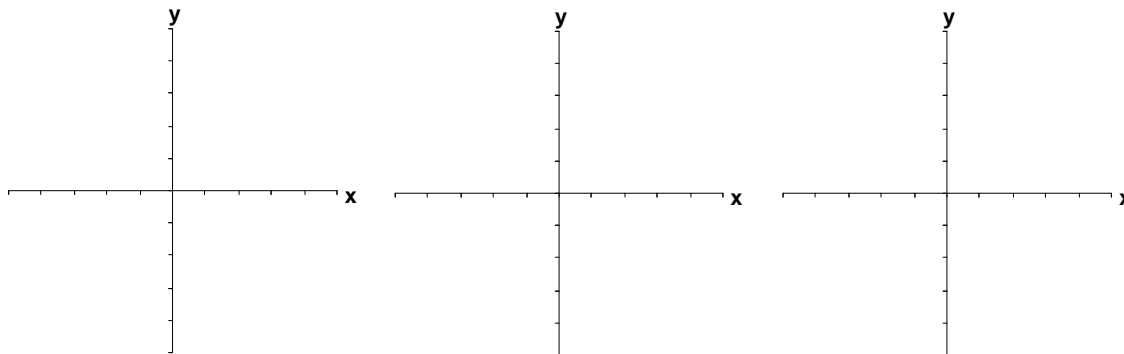
What you should learn

How to write and graph equations of conics that have been shifted vertically or horizontally in the plane

Example 1: Classify the equation $9x^2 + y^2 - 18x - 4y + 4 = 0$ as a circle, a parabola, an ellipse, or a hyperbola. Then sketch its graph.



Additional notes



Homework Assignment

Page(s)

Exercises