

Section 6.3 Ellipses

Objective: In this lesson you learned how to write the standard form of the equation of an ellipse.

Course Number

Instructor

Date

Important Vocabulary

Define each term or concept.

Foci

Vertices

Major axis

Center

Minor axis

I. Introduction (Pages 466–469)

An **ellipse** is . . .

What you should learn

How to write equations of ellipses in standard form and graph ellipses.

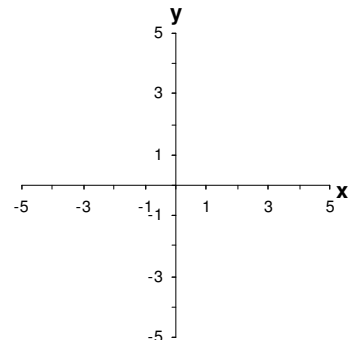
The standard form of the equation of an ellipse centered at (h, k) and having a horizontal major axis of length $2a$ and minor axis of length $2b$, where $0 < b < a$, is: _____

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 $2b$, where $0 < b < a$, is: _____

In both cases, the foci lie on the major axis, c units from the center, with $c^2 =$ _____ .

If the center is at the origin $(0, 0)$, the equation takes one of the following forms: _____ or _____ .

Example 1: Sketch the ellipse given by $4x^2 + 25y^2 = 100$.



II. Applications of Ellipses (Page 470)

Describe a real-life application in which parabolas are used.

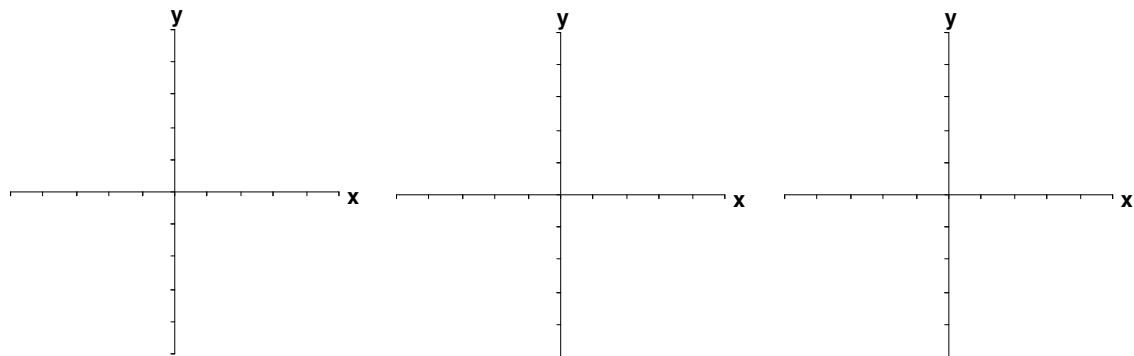
What you should learn
 How to use properties of ellipses to model and solve real-life problems

III. Eccentricity (Pages 470–471)

_____ measures the ovalness of an ellipse. It is given by the ratio $e = \frac{c}{a}$. For every ellipse, the value of e lies between _____ and _____. For an elongated ellipse, the value of e is close to _____.

What you should learn
 How to find eccentricities of ellipses

Additional notes



Homework Assignment

Page(s)

Exercises