

Section 6.2 Introduction to Conics: Parabolas

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

Course Number

Instructor

Date

Important Vocabulary

Define each term or concept.

Directrix**Focus****Focal chord****Latus rectum****Tangent****I. Conics** (Page 457)

A **conic section**, or **conic**, is . . .

Name the four basic conic sections:

In the formation of the four basic conics, the intersecting plane does not pass through the vertex of the cone. When the plane does pass through the vertex, the resulting figure is a(n) _____, such as . . .

What you should learn

How to recognize a conic as the intersection of a plane and a double-napped cone

II. Parabolas (Pages 458–460)

A **parabola** is . . .

The _____ of a parabola is the midpoint between the focus and the directrix. The _____ of the parabola is the line passing through the focus and the vertex.

What you should learn

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

The standard form of the equation of a parabola with a vertical axis having a vertex at (h, k) and directrix $y = k - p$ is

The standard form of the equation of a parabola with a horizontal axis having a vertex at (h, k) and directrix $x = h - p$ is

The focus lies on the axis p units (directed distance) from the vertex. If the vertex is at the origin $(0, 0)$, the equation takes on one of the following forms:

Example 1: Find the standard form of the equation of the parabola with vertex at the origin and focus $(1, 0)$.

III. Applications of Parabolas (Pages 460–461)

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

What you should learn
How to use the reflective property of parabolas to solve real-life problems

The reflective property of a parabola states that the tangent line to a parabola at a point P makes equal angles with the following two lines:

- 1)
- 2)

Homework Assignment

Page(s)

Exercises