Conic Sections - Parabola

Spoken Tutorial Project
http://spoken-tutorial.org
National Mission on Education through ICT
http://sakshat.ac.in

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Learning Objectives

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We will learn how to use GeoGebra to,

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- **Study standard equations and parts of a parabola**

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We will learn how to use GeoGebra to,

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- **Construct parabolas**

System Requirement

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- **Ubuntu Linux OS v 14.04**

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- **GeoGebra 5.0.388.0-d**

Pre-requisites

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- **GeoGebra interface**

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- **Conic Sections in geometry**

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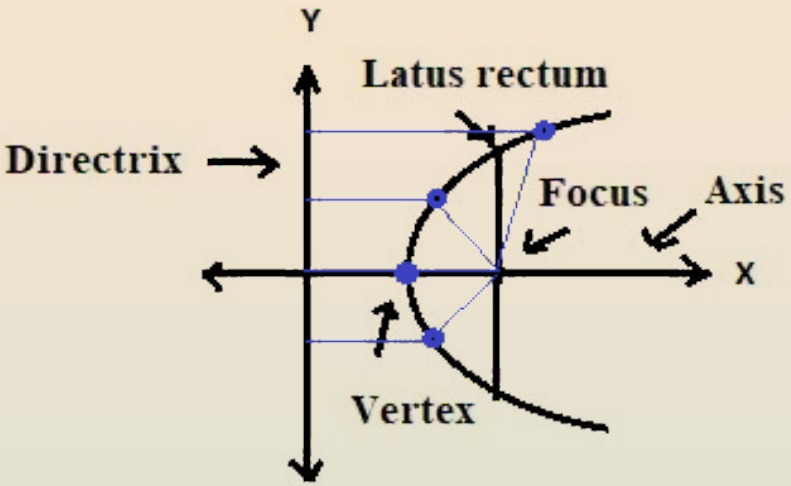
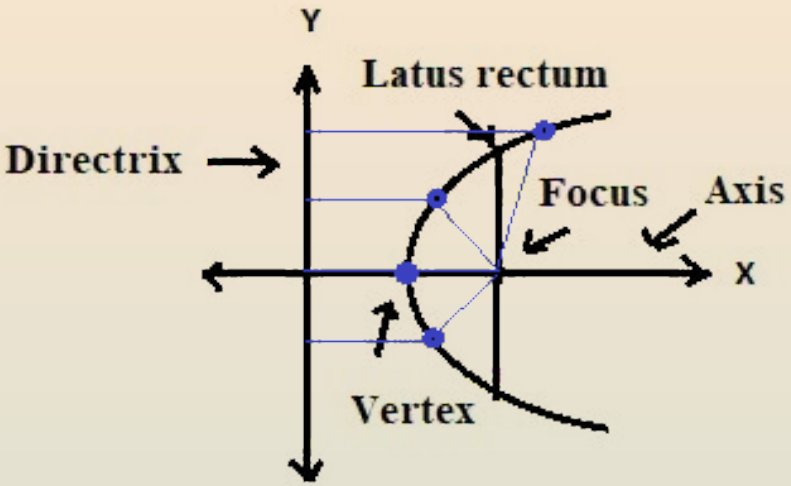
- **GeoGebra interface**
- **Conic Sections in geometry**
- **For relevant tutorials, please visit our website**
  www.spoken-tutorial.org

Parabola

Parabola

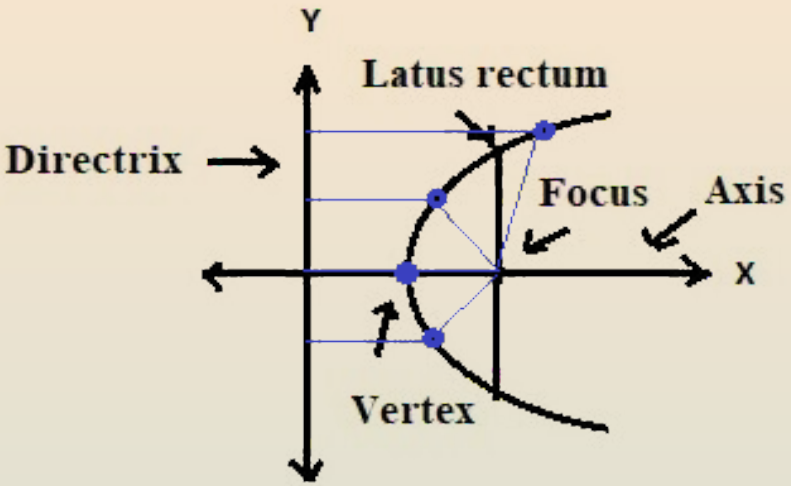


Parabola



- A parabola is the locus of points equidistant from the fixed point called the focus

Parabola



- **A parabola is the locus of points equidistant from the fixed point called the focus**
- **The points on the parabola are also equidistant from the fixed line called the directrix**

Summary

We have learnt how to use GeoGebra to,

- **Study the standard equations and parts of a parabola**
- **Construct parabolas**

Assignment

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- **Try these steps to construct parabolas with,**

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- **Focus $(6, 0)$ and directrix $x = -6$**

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- **Try these steps to construct parabolas with,**
- **Focus** $(6, 0)$ **and directrix** $x = -6$
- **Focus** $(0, -3)$ **and directrix** $y = 3$

Assignment

- **Try these steps to construct parabolas with,**
- **Focus** $(6, 0)$ **and directrix** $x = -6$
- **Focus** $(0, -3)$ **and directrix** $y = 3$
- **Find their equations**

Assignment

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- **Find the co-ordinates of the foci and length of latus recti for these parabolas**

Assignment

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- **Find the equations of the axes of symmetry and directrices**

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- **Find the equations of the axes of symmetry and directrices**
- $y^2 = 12x$

Assignment

- **Find the co-ordinates of the foci and length of latus recti for these parabolas**
- **Find the equations of the axes of symmetry and directrices**
- $y^2 = 12x$
- $x^2 = -16y$

About the Spoken Tutorial Project

- Watch the video available at http://spoken-tutorial.org/What_is_a_Spoken_Tutorial
- It summarizes the Spoken Tutorial project
- If you do not have good bandwidth, you can download and watch it

Spoken Tutorial Workshops

The Spoken Tutorial Project Team

- **Conducts workshops using spoken tutorials**
- **Gives certificates to those who pass an online test**
- **For more details, please write to contact@spoken-tutorial.org**

Forum for specific questions

- **Do you have questions in THIS Spoken Tutorial?**
- **Please visit http://forums.spoken-tutorial.org**
- **Choose the minute and second where you have the question**
- **Explain your question briefly**
- **Someone from our team will answer**

Acknowledgements

- Spoken Tutorial Project is a part of the Talk to a Teacher project
- It is supported by the National Mission on Education through ICT, MHRD, Government of India
- More information on this Mission is available at

  http://spoken-tutorial.org /NMEICT-Intro