

# Mensuration in Geogebra

**Talk to a Teacher**

**<http://spoken-tutorial.org>**

**National Mission on Education through ICT**

**<http://sakshat.ac.in>**

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**25 May 2012**



# Learning Objectives



# Learning Objectives

**We will learn to find**



# Learning Objectives

**We will learn to find**

- **Area and perimeter of rhombus**



# Learning Objectives

**We will learn to find**

- ▶ **Area and perimeter of rhombus**
- ▶ **Surface area of sphere and cone**



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**We will learn to find**

- ▶ **Area and perimeter of rhombus**
- ▶ **Surface area of sphere and cone**
- ▶ **Volume of sphere and cone**



# Pre-requisites



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- We assume that you have the basic working knowledge of Geogebra





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- ▶ Please visit our website  
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# System Requirement



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- ▶ **Ubuntu Linux OS Version 11.10**



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- ▶ **Ubuntu Linux OS Version 11.10**
- ▶ **Geogebra Version 3.2.47.0**



# Geogebra tools used



# Geogebra tools used

- Segment between two points



# Geogebra tools used

- ▶ **Segment between two points**
- ▶ **Circle with center and radius**





# Geogebra tools used

- ▶ **Segment between two points**
- ▶ **Circle with center and radius**
- ▶ **Ellipse**



# Geogebra tools used

- ▶ **Segment between two points**
- ▶ **Circle with center and radius**
- ▶ **Ellipse**
- ▶ **Polygon**



# Geogebra tools used

- ▶ Segment between two points
- ▶ Circle with center and radius
- ▶ Ellipse
- ▶ Polygon
- ▶ New point



# Geogebra tools used

- ▶ **Segment between two points**
- ▶ **Circle with center and radius**
- ▶ **Ellipse**
- ▶ **Polygon**
- ▶ **New point**
- ▶ **Insert text**



# Assignment 1



# Assignment 1

**Find area and perimeter of trapezium**



# Assignment 1

**Find area and perimeter of trapezium**

- Use output of file cons-trapezium.ggb



# Assignment 1

**Find area and perimeter of trapezium**

- ▶ **Use output of file cons-trapezium.ggb**
- ▶ **Rename object 'g' as 'b'**





# Assignment 1

**Find area and perimeter of trapezium**

- ▶ **Use output of file cons-trapezium.ggb**
- ▶ **Rename object 'g' as 'b'**
- ▶ **Area = (half sum of parallel sides) \* (vertical height) =  $(a+b)/2 * h$**



# Assignment 1

**Find area and perimeter of trapezium**

- ▶ Use output of file cons-trapezium.ggb
- ▶ Rename object 'g' as 'b'
- ▶ Area = (half sum of parallel sides) \* (vertical height)  $= (a+b)/2 * h$
- ▶ Perimeter = (sum of the sides)  $= (a+b+c+d)$



# Summary



# Summary

**We learnt to find**



# Summary

**We learnt to find**

- **Area and perimeter of rhombus**



# Summary

**We learnt to find**

- ▶ **Area and perimeter of rhombus**
- ▶ **Surface area of sphere and cone**



# Summary

**We learnt to find**

- ▶ **Area and perimeter of rhombus**
- ▶ **Surface area of sphere and cone**
- ▶ **Volume of sphere and cone**



# Summary

**We also learnt to draw**





# Summary

**We also learnt to draw**

- ▶ **Sphere**



# Summary

**We also learnt to draw**

- ▶ **Sphere**
- ▶ **Cone**



# Assignment 2



# Assignment 2

## Surface area and volume of cylinder



# Assignment 2

## Surface area and volume of cylinder

- Draw 2 ellipses of same size one below the other



# Assignment 2

## Surface area and volume of cylinder

- ▶ Draw 2 ellipses of same size one below the other
- ▶ Connect edges of ellipses



# Assignment 2

## Surface area and volume of cylinder

- ▶ Draw 2 ellipses of same size one below the other
- ▶ Connect edges of ellipses
- ▶ Use center tool, find center of one ellipse



# Assignment 2

## Surface area and volume of cylinder

- ▶ Draw 2 ellipses of same size one below the other
- ▶ Connect edges of ellipses
- ▶ Use center tool, find center of one ellipse
- ▶ Join center and edge





# Assignment 2

- Rename object 'b' as 'h' and 'e' as 'r'



# Assignment 2

- ▶ Rename object 'b' as 'h' and 'e' as 'r'
- ▶ Surface area  $= 2\pi r(r + h)$



# Assignment 2

- ▶ Rename object 'b' as 'h' and 'e' as 'r'
- ▶ Surface area =  $2\pi r(r + h)$
- ▶ Volume =  $\pi r^2 h$



# About the Spoken Tutorial Project

- ▶ Watch the video available at [http://spoken-tutorial.org/What\\_is\\_a\\_Spoken\\_Tutorial](http://spoken-tutorial.org/What_is_a_Spoken_Tutorial)
- ▶ It summarises 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](mailto:contact@spoken-tutorial.org)



# 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>

