Tangents to a Circle in Geogebra

Talk to a Teacher
http://spoken-tutorial.org
National Mission on Education through ICT
http://sakshat.ac.in

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Learning Objectives

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You will be able to

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You will be able to

- **Draw Tangents to a Circle**

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You will be able to

- **Draw Tangents to a Circle**
- **Understand the properties of Tangents**

Pre-requisites

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

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- **For relevant tutorials, please visit our website**
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System Requirement

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- **Ubuntu Linux OS version 11.10**

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- **Geogebra Version 3.2.47.0**

Geogebra Tools used

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- **Tangents**

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- **Tangents**
- **Perpendicular Bisector**

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- **Tangents**
- **Perpendicular Bisector**
- **Intersect two Objects**

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Geogebra Tools used

- **Tangents**
- **Perpendicular Bisector**
- **Intersect two Objects**
- **Compass**
- **Polygon**
- **Circle with Center and Radius**

Definition of Tangent

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- **Tangent is a line that touches a circle at only one point**

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- **Tangent is a line that touches a circle at only one point**
- **The point of contact is called point of tangency**

Theorem

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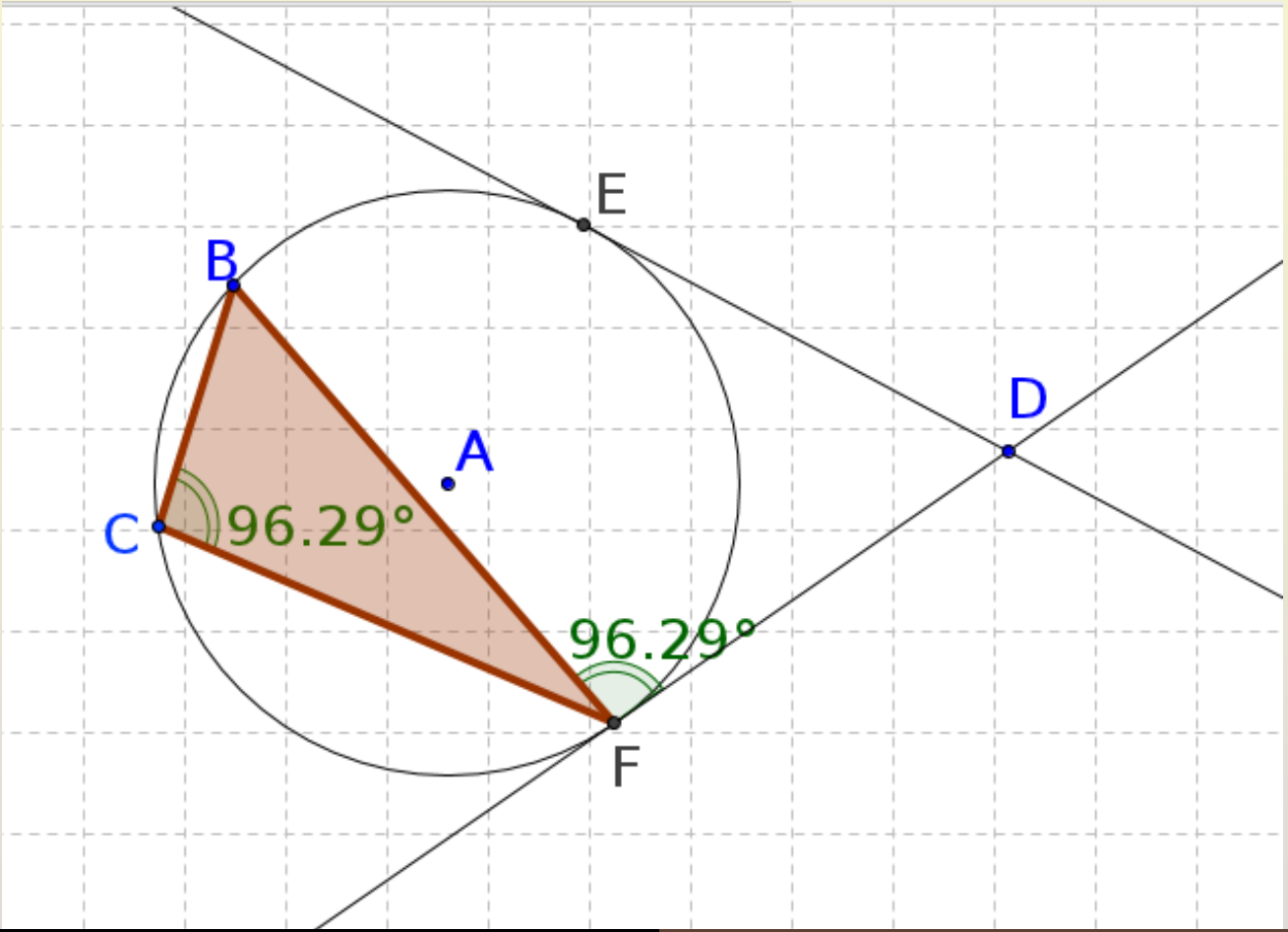
Angle between tangent and chord at the point of tangency, is same as an inscribed angle subtended by the same chord

$\angle$DFB between tangent &

chord = inscribed angle

$\angle$FCB of the chord BF



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- **Angle between a tangent and radius of a circle is 90°**

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- **Two tangents drawn from an external point are equal**
- **Angle between a tangent and radius of a circle is 90°**
- **Angle between tangent and a chord is equal to inscribed angle subtended by the chord**

Assignment

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Angle between two tangents drawn to a circle is supplementary to the angle subtended by the line-segment joining the points of contact at the centre

Assignment I

1. **Draw a circle**
2. **Draw tangents from an external point**
3. **Mark points of contact of the tangents**
4. **Join center of circle to points of contact**
5. **Measure angle at the center**
6. **Measure angle between the tangents**

Assignment II

7. **What is the sum of above two angles?**
8. **Join center and external point**
9. **Does the line-segment bisect angle at the center?**
10. **Hint - Use Angle Bisector tool**

About the Spoken Tutorial Project

- Watch the video available at 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**

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- More information on this Mission is available at: http://spoken-tutorial.org/NMEICT-Intro