

2021 Geometry The Secret of Inscribed and Circumscribed Polygons of a Circle (B.I. Geo...

Lesson 056 | Geometry | Circle chords and inscribed angles

<https://www.youtube.com/watch?v=19EfY6uUYv0>

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

A chord in a circle of radius 15 lies 9 from the center. Find its length. An inscribed angle intercepts a 48° arc; find that angle.

02

A chord in a circle of radius 25 lies 15 from the center. Find its length. An inscribed angle intercepts a 120° arc; find that angle.

03

A chord in a circle of radius 50 lies 30 from the center. Find its length. An inscribed angle intercepts a 96° arc; find that angle.

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04

A chord in a circle of radius 20 lies 12 from the center. Find its length. An inscribed angle intercepts a 84° arc; find that angle.

05

A chord in a circle of radius 25 lies 15 from the center. Find its length. An inscribed angle intercepts a 110° arc; find that angle.

06

A chord in a circle of radius 60 lies 36 from the center. Find its length. An inscribed angle intercepts a 88° arc; find that angle.

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01

A chord in a circle of radius 15 lies 9 from the center. Find its length. An inscribed angle intercepts a 48° arc; find that angle.

The perpendicular from the center bisects the chord. Half-chord $\sqrt{(15)^2 - (9)^2} = 12$; full chord = 24. Inscribed angle is half its intercepted arc: 24° .

02

A chord in a circle of radius 25 lies 15 from the center. Find its length. An inscribed angle intercepts a 120° arc; find that angle.

The perpendicular from the center bisects the chord. Half-chord $\sqrt{(25)^2 - (15)^2} = 20$; full chord = 40. Inscribed angle is half its intercepted arc: 60° .

03

A chord in a circle of radius 50 lies 30 from the center. Find its length. An inscribed angle intercepts a 96° arc; find that angle.

The perpendicular from the center bisects the chord. Half-chord $\sqrt{(50)^2 - (30)^2} = 40$; full chord = 80. Inscribed angle is half its intercepted arc: 48° .

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04

A chord in a circle of radius 20 lies 12 from the center. Find its length. An inscribed angle intercepts a 84° arc; find that angle.

The perpendicular from the center bisects the chord. Half-chord $\sqrt{(20)^2-(12)^2}=16$; full chord=32. Inscribed angle is half its intercepted arc: 42° .

05

A chord in a circle of radius 25 lies 15 from the center. Find its length. An inscribed angle intercepts a 110° arc; find that angle.

The perpendicular from the center bisects the chord. Half-chord $\sqrt{(25)^2-(15)^2}=20$; full chord=40. Inscribed angle is half its intercepted arc: 55° .

06

A chord in a circle of radius 60 lies 36 from the center. Find its length. An inscribed angle intercepts a 88° arc; find that angle.

The perpendicular from the center bisects the chord. Half-chord $\sqrt{(60)^2-(36)^2}=48$; full chord=96. Inscribed angle is half its intercepted arc: 44° .