

10 1 and 10 3 Circles Radius and Chord Relationship

Lesson 054 | Geometry | Circle chords and inscribed angles

https://www.youtube.com/watch?v=0yVy9Z1L_nA

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

A chord in a circle of radius 10 lies 6 from the center. Find its length. An inscribed angle intercepts a 72° 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 84° arc; find that angle.

03

A chord in a circle of radius 35 lies 21 from the center. Find its length. An inscribed angle intercepts a 90° arc; find that angle.

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04

A chord in a circle of radius 55 lies 33 from the center. Find its length. An inscribed angle intercepts a 28° arc; find that angle.

05

A chord in a circle of radius 20 lies 12 from the center. Find its length. An inscribed angle intercepts a 36° 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 54° arc; find that angle.

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01

A chord in a circle of radius 10 lies 6 from the center. Find its length. An inscribed angle intercepts a 72° arc; find that angle.

The perpendicular from the center bisects the chord. Half-chord $\sqrt{(10)^2 - (6)^2} = 8$; full chord = 16. Inscribed angle is half its intercepted arc: 36° .

02

A chord in a circle of radius 25 lies 15 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 $\sqrt{(25)^2 - (15)^2} = 20$; full chord = 40. Inscribed angle is half its intercepted arc: 42° .

03

A chord in a circle of radius 35 lies 21 from the center. Find its length. An inscribed angle intercepts a 90° arc; find that angle.

The perpendicular from the center bisects the chord. Half-chord $\sqrt{(35)^2 - (21)^2} = 28$; full chord = 56. Inscribed angle is half its intercepted arc: 45° .

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04

A chord in a circle of radius 55 lies 33 from the center. Find its length. An inscribed angle intercepts a 28° arc; find that angle.

The perpendicular from the center bisects the chord. Half-chord $\sqrt{(55)^2 - (33)^2} = 44$; full chord = 88. Inscribed angle is half its intercepted arc: 14° .

05

A chord in a circle of radius 20 lies 12 from the center. Find its length. An inscribed angle intercepts a 36° 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: 18° .

06

A chord in a circle of radius 60 lies 36 from the center. Find its length. An inscribed angle intercepts a 54° 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: 27° .